Digital Literacy in the Classroom: Teachers’ Attitudes towards Technology and the Language Curriculum

By

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Abstract

As technology and the digital world continue to expand and develop, there is an increasing expectation and demand for teachers to present technologically relevant content in their classrooms. Research has already explored the need for digital literacy in the classroom, in many cases the resources have been provided, and yet educators still struggle to integrate digital literacy in meaningful ways.

This study looked at the current literature and then spoke with current teachers about their successes and challenges implementing digital literacy in their classrooms. The study involved two interviews, which yielded two unique sets of data, allowing the study to consider the polarizing views on this topic and what implications that has on the current use of technology in classrooms. Findings included examples of best practice, and concerns about improper use. Overall, the study suggested a balanced approach and the need for further education to improve teacher attitudes’, comprehension, and comfort level.

Key Words: Technology, Digital Literacy, Literacy, Language Curriculum, Multiple Literacies, Elementary Education, Primary/Junior Education
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Digital Literacy in the Classroom

Chapter 1: INTRODUCTION

1.0 Introduction to the Research Study

Digital literature has become a regular part of our students’ daily lives. For example, Wikipedia is a common form of digital literature, its meaning mediated and co-created across the Internet by strangers. Regardless of its unreliability and tarnished reputation in academic circles, in practicality it is the first resource most people turn to when trying to quickly learn more about a topic. While I can copy and paste a page of text from the site to this paper, I am instantly losing some of its nature in the process. In the following paragraph alone, there are three hyperlinks – words that lead the user to other articles with specific information related to that word or phrase. Once taken out of context, however, those hyperlinks lose their meaning. They do not translate to traditional literacy.

According to Wikipedia;

Electronic literature, otherwise known as Digital Literature, is a literary genre consisting of works of literature that originate within digital environments and require digital computation to be read. In contrast to most e-books, electronic literature is created specifically to be used via a digital setting and thus cannot be printed as key elements of the text require computation: for instance there may be links, generative aspects, multimedia content, animation or reader interaction in addition to the verbal text. Electronic literature may also take the form of digitally mediated performance writing. (“Electronic literature”, 2004, para. 1)
What started as an online digital version of a tradition encyclopedia in 2001 (“Wikipedia”, 2015) has become a popular form of storing and exchanging information with its own system of cues and ways of making meaning. “Wiki pages” have cropped up for every area of interest – from video games to T.V. shows to book series. ‘The Elder Scrolls Wiki’ contains 28,351 pages (as of January 14, 2015) based on the popular Elder Scrolls video game series, each page an entry laid out with information on a specific subtopic. While Wikipedia is not considered a credible source for academic papers, it and websites like it have become a common cultural point of reference when the stakes are low and quick answers are desired.

Knowing how to navigate this information, and how to assess it for truthfulness, is just one of the ways in which digital literacy is important to our students. It is also just one form of digital literacy that students engage with almost every day. Blogs, social media sites, and video games are all examples of digital literature that has become part of the regular world around us all, students and teachers alike. Each of these examples of digital literature comes with its own paradigms. Students need to explore new forms of knowledge and literacy to be able to engage with the language of this digital world. However, digital literature also intersects and coexists with traditional literacies and language curriculum. The two do not each exist in parallel vacuums of meaning making. Instead, they can inform upon and support one another. Current curriculum and practice stress bending digital resources to teach traditional pen and paper literacies, which does not reflect the skills students will need when they emerge into digitally rich worlds. Instead, I intend to explore how digital literacies can be integrated into elementary language classrooms as a regular and important tool for both teachers and students.
1.1 Purpose of the Study

The purpose of this study is to examine the challenges facing the integration of digital literacies in elementary classrooms and identify how teachers and students can benefit from the widespread implementation of digital literacies in the classroom. Many studies have looked at the importance of digital literacies to our students; for example, – how digital literacy can promote traditional language learning (Segers & Verhoeven, 2002) or the need to acknowledge emerging literacies (Wohlwend, 2010). I intend to study the practical application of these concepts, and how digital literacy can be fully integrated into language classes.

It is my intention that this research will help teachers embrace digital literacies in their classrooms, to effectively engage students within the language curriculum, and promote higher learning and development. Day and Kroon (2010) have shown that students find digital literacy programs in their classroom fun, engaging, and academically beneficial. It has been suggested, however, that teacher anxieties about the practicalities of a digital rich language curriculum often prevent the kind of exploration and experimentation this area could benefit from (Cviko, et al. 2012). I hope that some of the ideas put forward in this study will inspire teachers to enact a more extensive digital literacy language program in their class, by expanding on what other teachers have practiced in their own experiences with digital literacy.

Another drawback to digital literacies in the classroom has been policy and curriculum. Due to the fast growth and fluid nature of digital literacies in our culture and our classrooms, policy has had trouble keeping up with practice. In this study, I will attempt to outline the major barriers teachers face with regards to policy and curriculum, and then suggest how these gaps may begin to be bridged.
1.2 Research Questions

The main question leading this study is how can teachers use digital literacies in elementary classrooms to promote language learning? I will consider the following sub questions to help focus my research: What are teachers’ attitudes towards the importance of digital literacy in their elementary classroom? What resources and strategies can help teachers overcome barriers when introducing technology and digital literacies to their classroom? Finally, how can teachers ensure that technology is incorporated in meaningful ways?

I will be basing my research in a qualitative case study approach. Participants will engage in interviews to express their experiences engaging with digital literacies in education. While designing my questions and conducting my interviews I will engage in the practices set forth by previous studies (Barter & Jack, 2008; Creswell, 2006) which introduce the appropriate methods for recording and analyzing data gathered through interviews. I will follow previous research which sets up guidelines to ensure reliability and reduce bias in qualitative research (Mays & Pope, 1995).

1.3 Background of the Researcher

I developed an interest in digital literature during my undergraduate studies at the University of Toronto while pursuing my Honors Bachelor of Art with a Specialist degree in English. During this time I was exposed to the wealth of new material that was being developed and explored under the rather broad definition of digital literature. I came to appreciate the new ways of creating and negotiating narrative and meaning, which were the product of the digital revolution that began when I was young but was old enough to experience. I find that I am not quite a “digital native” as defined by Prensky
(2001) over a decade ago, as those who are raised in a digital world and could be considered “native speakers” of the digital language of computers, video games and the Internet” (p. 2). Neither do I consider myself the opposing “digital immigrant” (Prensky, 2001) - the generation before me which was defined as permanently incapable of being fully immersed and integrated with our new digital world. I was young enough to adapt and recognize the potential of the Internet, but old enough to have experienced life without it. It is this balance – this appreciation for both traditional and digital literacies (and the importance of finding a balance between the two) that informs my research.

1.4 Overview

The present study is organized into five chapters. Chapter 1 introduces the research topic and my own relationship to it. In chapter 2 an overview of current literature regarding digital literacies in education is presented. Chapter 3 will be an overview of the methods, procedures, contributors, and instruments used throughout the research. Chapter 4 will take a closer look at contributors and the data gathered during the interview process. Finally in Chapter 5, this paper will explore limitations, draw any conclusions and recommendations, and suggest further avenues for study.
Chapter 2: LITERATURE REVIEW

2.0 Introductory Overview

This research will help to support the idea that technology is a necessary part of our students’ future success, and that it is our role as educators to find meaningful ways to incorporate multiple literacies into our classrooms. Successful technology use is both exciting and integrated (Clarke, 2014) and relies on the active participation and guidance of a teacher to scaffold learning (Yin Hsu & Wang, 2010). We cannot just sit students in front of computers or mobile devices and expect learning to happen. This literature review seeks to outline some of the current strategies, successes, and challenges of digitally rich classrooms. By looking at the commonalities and differences drawn from a review of twenty studies regarding digital literacies and technology in education, the following relevant themes emerge: digital natives, multiple literacies, mindset and proper use, curriculum and policy, and programs and technology.

2.1 Digital Natives

A large majority of papers examining digital literacies in education make some sort of reference to Prensky’s (2001) article which coined the term ‘digital natives’ to refer to the up and coming generation who grew up immersed in a digitally rich world, and as such have unique interests, skill sets, and ways of learning and understanding. This idea is at the core of most arguments into why technology and multiple literacies belong in the classroom. Many studies make the argument that we must adapt the system to the student, not vice versa (Prensky, 2001; Wohlwend, 2010; Hew & Brush, 2007). Certainly our students are changing, in more than just their forms of entertainment; the
ways that they create their identities and concepts of self are changing— influenced by social media, gaming avatars, and their place in a growing digital community (Godwin–Jones, 2010; Wohlwend, 2010). There is argument that the way their brains retain information is changing on a biological level (Prensky, 2001).

‘Digital Natives’ refers to students who are immersed in digital technologies and familiar with them in a way that ‘Digital Immigrants’ (Prensky, 2001) will never be. As teachers we must recognize the unique interests and skills they have developed, and incorporate this into our classrooms. Part of this is also recognizing that as in all things, children have different interests. Just because a teacher is incorporating technology or digital literacies into their class does not immediately mean every student will be engaged, as different students have different digital interests.

In more recent studies the argument for technology has developed past the idea of digital natives. Even now that it is mostly accepted what digital natives are, and that they exist, we still see many schools misusing or ignoring digital literacies in the classroom. However, with the spike of careers centered on skills built through technology and digital literacies the question is not if we should do this, but how to do it as soon as we can. Hicks and Turner’s (2013) argument comes through bluntly in the title to their article “No Longer a Luxury: Digital Literacy Can’t Wait”. They argue that pedagogy and policy cannot be as slow moving to change and adapt as it has been in the past because we are disadvantaging our students by withholding from them skills important to their future (Hicks & Turner, 2013). Indeed this is an issue that is not often mentioned in other studies – that the areas and schools who have the least access to technology often could benefit from its inclusion the most. Similarly, Borsheim and Merrit (2008) touch on this
idea of equality though technology when they write: “… although the shift is clearly technological, to prepare students for full and equal participation in public, private, and work environments of the twenty-first century, it must also be pedagogical” (p. 87). We cannot accept that a technologically rich education is only available to students in wealthy neighbourhoods or forward-thinking schools. The fact is that the society we live in has changed, and the skills and tools our students are taught in school must adapt to reflect what they will need to be successful in the broader world.

2.2 Multiple Literacies

One of the skills often mentioned when referring to ‘digital natives’ or technology in the classroom is being knowledgeable in multiple literacies. Multiple literacies recognize that literacy comes in many different forms, outside of the written word, and that each of these literacies has unique (though sometimes converging) ways of communicating and decoding meaning. Digital literacy, multi-literacies, and gaming literacies are all examples of new ways of creating and reading meaning (or new ways of understanding). The more we understand about multiple literacies and their place in society, the more open we will be to their place in our schools. Before we consider this we must understand the meaning of traditional literacy, which is considered “the ability to read, write, communicate, and comprehend and has encompassed language skills evolved from writing, vocabulary knowledge, and meaning construction.” (Hsu & Wang, 2010, p. 401).

Semiotic mediation is at the root of meaning making and supports a sociocultural approach to literacy. According to Razfar and Yang (2010) “Semiotic mediation connects internal and external, the social and the individual; embodied meaning making is
experienced through an interdependent system of constraining and enabling relationships
(social, cultural, and physical) and actions” (p. 115). They argue that traditional semiotic
tools (like language or numbers) now exist alongside digital semiotic queues experienced
through online sites, digital gaming, and Internet chat (Razfar & Yang, 2010) which our
students must learn to read and understand just like tradition semiotic tools. They
describe this “new literacy” environment as “broader, more dynamic, fluid, multilayered,
and multimodal” (Razfar & Yang, 2010, p. 117).

Enter multiliteracies, which allow students to be fluent and comfortable making
meaning across a broad range of texts and technologies, and to be knowledgeable and
literate in the different signs and techniques utilized in each unique but interconnected
environment. Smith (2001) suggests that the “genesis of multiple literacies was a shift
from conventional reading theory to emergent literacy research, where writing and
reading were treated are interrelated phenomena.” (p. 156). We need to recognize and
value more than just traditional pen and paper literacies. However we cannot have
multiliterate students without multiliterate teachers. Borsheim, Merritt and Reed (2008)
provide a strong definition of a multiliterate teacher who they argue will “offer their
students ample opportunities to access, evaluate, search, sort, gather, and read
information from a variety of multimedia and multimodal sources and invite students to
collaborate in real and virtual spaces to produce and publish multimedia and multimodal
texts for a variety of audiences and purposes.” (p. 87). Within the context of multiple
literacies there are other technology based literacies including gaming literacy (Hsu &
Wang, 2010), multiple storybook literacies (Smith, 2001) and digital literacy (Hicks &
Turner, 2013; Prensky, 2001; Kinzer, 2010).
Due to the recent nature of these studies, the lines are often blurred between all of these various literacies, and definitions have multiple variations, the use of which is often up to the discretion of the researcher. However at their base they all incorporate technology, digital spaces, and unique skills of encoding and decoding meaning which are a necessary part of our students’ future ability to participate meaningfully in society.

2.3 Mindset and Proper Use

Teaching with digital literacy and technology is inherently student based – we are moving the axis of control and inquiry to them, which in turn tends to make teachers uncomfortable. We are moving away from an I-R-E (initiate – respond – evaluate) discourse in which the teacher initiates discourse and leaves the student to respond and in turn be evaluated (Grisham & Wolsey, 2006). In many cases this also asks teachers to move out of their comfort zone, which speaks to a lack in preservice training and support (Cviko, et al., 2011). However we cannot wait for the resources to come to us; in many cases we must make an effort to educate ourselves on the available options and current research. Frequently, a lack of “technology knowledge and skills, technology-supported pedagogical knowledge and skills, and technology-related-classroom management knowledge and skills has been identified as a major barrier to technology integration.” (Hew & Brush, 2006, p.227).

Should a teacher elect to educate themselves and face the numerous barriers between their students and a digitally rich classroom, they must navigate the existing literature to find meaningful uses for technology in their classroom. Though increasingly less common, there are still strategies which simply seek to support pen and paper literacies with technology – for example a study which suggests using technology to
support student engagement with books at the start and end of the year, which it claims are the hardest time of year for teachers (Saine, et al., 2012). In their study they rely on technology for its motivating properties alone, ignoring the possibilities of addressing multiple literacies in their lessons. They also fail to recognize that successful technology integration in the classroom is regular and year wide, not just to be saved for special occasions.

Additionally there is a need to address one of the frequent arguments for and against the use of technology in the classroom - its entertainment value. In the camp against it, teachers argue that digital literacies are shallow ways to distract students, and their use of technology often reflects this belief. However, we must beware the difference between education and ‘edutainment’ (Segers & Verhoeven, 2002). If we always keep the learning goal in mind and think critically about which technology might best support our goal we can avoid falling into the trap of using technology for its entertainment value (Clarke, 2014) and instead benefit from its motivating and engaging qualities.

2.4 Curriculum & Policy

Outdated policies and curriculum expectations are often listed as two of the major barriers to meaningful technological integration in the classroom. Regardless of the wealth of research over the past decade, much of which indicates the importance of technology to our students, educational policy makers have neglected to enact changes which would support a technologically rich pedagogy. The lack of support for teachers stems from policies that prioritize traditional literacies and make little room for adequate technological resources (Kinzer, 2010). Hew and Bush (2006) conducted a review of 48 peer-reviewed studies and found that resources made up 40% of the barriers mentioned,
with the next closest barrier being knowledge/skills at 23% (p. 226). They organized resources into three main categories – technology, access to technology, time, and technical support (Hew & Bush, 2006, p. 226 – 227). Not only do we need policies which support provisions for technology, but which also recognize the importance of access to these technologies for all subjects, provides teachers with planning time and resources, and keeps said technology in good repair. This was supported by the research of Kervin, Verenikina, Jones and Beath (2013) who found the same institutional barriers in their survey of 213 Australian educators.

Even if a teacher has access to functioning up to date technology, they must believe it is worth using. While teachers’ mindsets have been partially examined in the previous section, it is important to consider how policy can impact mindset. Borsheim, Merritt and Reed (2008) suggested integrating “technology into the classroom can seem complicated when current educational policy clings closely to traditional curriculum.” (p. 88). In his detailed list of suggestions for literacy policies in the context of digital environments Kinzer (2010) suggested we “Include in “Standards” documents the expectation that teachers and students know how digital texts can support comprehension.” (p. 56). Furthermore Kinzer (2010) calls for policies directed intentionally towards digital media practices, not just co-opted into current literacy practices (p. 58).

Assuming that a teacher has the resources and the desire to incorporate digital literacies in their classroom, we need policies that support their learning and exploration so that they feel comfortable using the tools available to them. Here Kinzer (2010) suggests making “more funding available to document effective practices related to
technology teaching and learning in language arts, and to support preservice and in-service education about digital literacies and teaching in collaborative digital media.” (p. 56). This would help address the oft-cited barrier of lack of knowledge or training on behalf of teachers (Hew & Bush, 2006; Kervin, et al., 2013; Cviko, et al., 2011; Grisham & Wolsey, 2006; Hicks & Turner, 2013).

These are just a select few of the many ways policy and curriculum need to adapt to encourage digitally rich classrooms. Wohlwend (2010) stressed the urgency of this need when she wrote “At a minimum, we need policies that remove institutional barriers and actively support a permeable literacy curriculum that encourages young children to bring their cultural resources to school, including digital technologies and popular media.” (p. 150). While it is difficult for educators to stay on top of our constantly developing digital world, we can no longer accept outdated curriculum expectations and policies which at best discourage and at worst impede meaningful technological integration not only in the language arts, but throughout the classroom.

2.5 Programs and Technology

Digital literacies can support a number of goals within the language arts curriculum. For example, even at a young age it can encourage linguistic development and language acquisition. In their study Segers and Verhoeven (2002) developed a software program to advance literacy learning amongst kindergarteners. Their study showed significant gains using the program, which included electronic storybooks and language based games and interactive activities linked to the text. Such programming draws on the engaging, visual, interactive, and motivating qualities of digital literature. McKenney and Voogt (2008) saw similar gains while using their program called *PictoPal*
which was designed to improve students written literacy skills. Their program uses a grid of options, including both images and words, to allow students to create short works of text which are then incorporated into off computer activities and lessons. They built their program based off the presumption that children desire and are capable of expressing themselves in print even before they are capable of reading and writing (McKenney & Voogt, 2008).

Digital literature circles have also been proven to encourage discussion and interaction amongst peers and between students and their teacher (Day & Kroon, 2014). These operate within online forums, which allows students to direct the conversation, get involved both at school and at home, work at their own pace, and reduces some of the anxiety involved in face to face discussion. However they are also proven to be more effective when combined with face to face circles (Day & Kroon, 2014). Online affinity spaces (such as wikis, fan based forums, etc.) also act as a way to encourage students to get involved in discussions and write about their interests (Curwood, 2013).

Video games have also been shows to encourage skills related to encoding and decoding meaning, support creativity and self-expression, and impact identity development (Wohlwend, 2010). When they are playing games some skills students develop include spatial skills, problem solving, and strategy (Hsu & Wang, 2010). However this requires careful selection on behalf of the educator, who must also inquire if the game involved is somehow better at developing certain skills or ideas then other methods. Possibly more beneficial is the use of gaming as a platform for creation and the creative expression of ideas (Hsu & Wang, 2010). Used properly, certain games or game crafting programs act as an alternate way to teach students about the various elements of
storytelling such as narrative or character development, and may be a way to involve reluctant writers. Electronic books with or without interactive elements help support traditional literacy as well as the acquisition of new skills related to multiple literacies (such as the function of hyperlinks) (Smith, 2001).

In addition to the above there are dozens of unique programs, devices, and apps that haven’t been discussed, (such as blogs, podcasts, wikis, etc.). The one consistent element in the research is the importance of teacher involvement in the learning process. We do not place a novel in a student’s hands, tell them to read it, and expect at the end that learning has occurred. We give them the resources and participate in a process of questioning and exploration which we hope will lead to multiple levels of meaningful learning. The same ideas of guidance, related activities, questioning and support are needed when technology is involved. Also, with such a wealth of options, teachers need to educate themselves and think carefully if they are matching the right tool to the desired learning goal.

2.6 Overview

During this literature review I considered my main research questions: how can teachers use digital literacies in elementary classrooms to promote language learning? What are teachers’ attitudes towards the importance of digital literacy in their elementary classroom? What resources and strategies can help teachers overcome barriers when introducing technology and digital literacies to their classroom? Finally, how can teachers ensure that technology is incorporated in meaningful ways? I have included some of what the current research says in regards to these questions, but have found that there are more studies outlining the problems than suggesting practical solutions which educators can
enact in their classrooms. What programs, technologies, strategies and lessons are
teachers successfully integrating into their primary and junior classrooms to support a
meaningful development of digital literacies? I hope to draw on the successes and
challenges of teachers in the field to create a series of suggestions for action to support
other teachers who wish to incorporate technology into their classroom, as well as
illustrate directions for further research. Overall the goal is to encourage others to explore
digital literacy in their classrooms, and perhaps eliminate some of the stigma and anxiety
surrounding this task.
Chapter 3: METHODOLOGY

3.0 Introduction

“A key source, then, of standards of evidence and quality throughout the history of the scientific method and its application in qualitative inquiries has been the systematic and careful documentation of all procedures – an account of practice – to provide a record for researcher’s ongoing contemplation as well as for peer review.” (Freeman, deMarrais, Preissle, Roulston, & St Pierre, 2007, p. 26).

It is in respect to this tradition that I present my third chapter on the methods and methodology used in this study. This chapter outlines my research approach, and process of data collection and analysis. I introduce my participants, explain how they were sought out and chosen, and provide short biographies. Finally, I provide a brief review of ethical review procedures and concerns, as well as the methodological limitations and strengths of this study.

3.1 Research Approach and Procedures

The research was conducted as a qualitative study composed of a literature review, semi-structured interviews, and data analysis. Qualitative studies help explore the values, beliefs, and experiences of participants. They have been shown to “produce science-based evidence that can inform policy and practice” (Brantlinger, Jimenez, Klingner, Pugach, & Richardson, 2005, p.195). While there are numerous and often conflicting definitions of qualitative research (frequently informed by the theory or method preferred by the researcher), this study aligns itself closest to the definition put forward by Denzin and Lincoln (2000) which states:

Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the
world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. ...This means that qualitative researchers study things in their natural settings, attempting to make sense of or to interpret, phenomena in terms of the meanings people bring to them. (p. 4-5)

In the case of this study, a qualitative approach has helped explore real world experiences with digital literacy in the classroom, and present specific ways that technology can interact with literacy in an educational setting. As noted in the literature review, there are already many studies (both qualitative and quantitative) suggesting digital literacy is important to our students and our classrooms. What is lacking are direct approaches and examples of best practice. What are teachers first hand experiences with digital literacy? How do we implement the knowledge laid out by previous studies effectively? A qualitative approach can “trace and document certain teaching and learning effects” (Brantlinger et al., p. 196) to help answer this question.

3.2 Instruments of Data Collection

To gather the data I used a semi-structured interview protocol. The flexible nature of this style of interview left my participants and I the freedom to explore ideas that came up which we believed were important and relevant. It allowed participants more room to fully express themselves and their experiences while still allowing the researcher a certain degree of control and direction (Rabionet, 2011, p. 564).

I entered these interviews with a set protocol of 18 questions which I sought to address in interviews lasting approximately forty minutes. These are attached in appendix
B below. The interviews opened with general questions about participants and their students to set up some background. We then looked at the beliefs and values the participant held regarding digital literacy – what was its importance to the students and the teacher? Following this, the participant was asked to consider various influences on their beliefs and practice, both supportive and constricting. With this background set up, we considered specific ways digital literacy fit into the classroom, and ideas about best practice for technology based on the teachers experience. The interview finished with a discussion of next steps – advice for other educators, and the participant’s next steps for themselves professionally and for their literacy program.

3.3 Participants

Presented in this section are the criteria set when seeking participants, the methods used to locate and contact them, and short bios of the participants themselves.

3.3.1 Sampling Criteria

- EK- grade six teacher
- Expertise with technology in a classroom setting
- Professional development related to literacy and/or technology
- Reputation with their peers and in their professional community for using technology in innovative ways

The participants chosen for this study were selected because of their demonstrated interest in and expertise incorporating technology into their literacy classroom. Because the specific scope of this study is limited to elementary classrooms, they will have relevant experience in the kindergarten to grade 6 classroom.
The goal of this study is to outline specific strategies which may benefit future teachers and students, therefore, participants will have established a particular expertise with digital literacy. This may be demonstrated through a number of means, such as postgraduate studies, professional development courses, published literature on the topic, etc. They will also have exhibited a willingness to experiment and use technology in new and innovative ways which has benefited their students’ literacy and language learning.

3.3.2 Sampling Procedures/Recruitments

Due to the desire to recruit teachers who are recognized as innovators in their field, the study used purposeful sampling methods. Letters were sent to the Peel District School Board and Toronto District School Board (TDSB), which asked that the researchers information be passed on to any teachers or programs which met the above criteria. The teacher was then free to contact the researcher to set up an interview. By leaving this in the participant’s hands it ensured that all participation was willing, and interviews were not conducted under pressure. The Peel District School Board also runs a Bring Your Own Device (BYOD) program across its schools, and this program was also approached for participants. The TDSB ICT document was also used as a resource to find potential participants. Finally, research was done into local media and education related publications in order to seek out participants who fit the study.

3.3.3 Participant Bios

Participant A has been teaching for 10 years. Nine years was spent in kindergarten and the current year is in grade 5. He has attended courses on SmartBoards, Promethean boards, and iPad apps to help incorporate media and literacy. His school board offered all of these courses. Participant A is also a part of his schools 21st Century Learning Committee. His current classroom is located in a portable, which means he has
little access to technology, and no Internet access. His classroom has a projector and a computer. Participant A did not receive any preservice training related to technology when completing his teaching degree a little over 10 years prior.

Participant B has been teaching for 13 years. In that time, he taught 8 years of kindergarten, 5 years of which was special education. The remainder was spent teaching the homeschool program, grades 4, 5 and 6. He is currently teaching kindergarten. Prior to teaching Participant B took courses in computer programming in his undergraduate studies, took computer modelling courses, and has spent time working in IT and large scale networking. He also received training on technology integration with regards to literacy when completing his library AQ. He completed a Master’s degree at the University of Toronto studying institution behavior and moral development.

3.4 Data Analysis

To analyze my data I began by transcribing my interviews and identifying categories of data within them. While pre-coding can be beneficial in very specific circumstances (Gough & Scott, 2000, p. 341), due to the small sample size and semi-structured nature of these interviews I believed coding after the fact would better suit this study. Furthermore pre-coding can increase preconceived notions and negatively impact the data gathered. Instead of actively listening to their participant, the researcher becomes concerned with where answers fit into predetermined categories and misses cues and chances to engage and draw out more data.

Furthermore it is in the nature of grounded theory that categories are informed by the data itself so that “[...] emphasis is placed on the discovery and elucidation of links between categories so generated.” (Gough & Scott, 2000, p. 342). To accomplish this I
began to look for links and themes presented by the data to inform the results of my research. According to Lincoln (2002) “Data and information are not evidence until two things happen: first, someone recognizes it as data, and second, an inquirer subjects it to some form of systematic analysis, which turns it into evidence directed toward some question or argument.” (6). As well as attempting to fill this role of recognizing data and its importance as outlined by Lincoln, I also attempted to be aware of the null data – what was not said or identified. These gaps in data can also inform the research in numerous ways.

3.5 Ethical Review Procedures

A number of ethical concerns were addressed in this study. Firstly, participants were offered a detailed consent form to ensure they were comfortable with the scope of the research and their role in it (appendix A). As part of this, their right to withdraw and to request anonymity were both recognized and respected. The importance of informed consent is critical to qualitative studies, in which a dialogue rooted in a certain amount of trust must be developed (Munhall, 1988, p. 156).

This topic and the research involved did not present any reasonable risks of participation. “Fieldwork that is existential and authentic involves the negotiation of trust between the researcher and the participants.” (Munhall, 1988, p. 156). As a part of developing and respecting that trust, regular member checks were performed. Participants were presented with a copy of the data once the interviews were transcribed, with an invitation to correct any misunderstandings or withdraw any comments. Finally, during research data was stored on a password protected private computer, and backed up onto a
private external drive which was kept in a locked file cabinet when not in use. This data will be erased after five years.

3.6 Methodological Limitations and Strengths

Validity within research is inexorably tied to the values and standards informed by the theories in practice, and therefore the line of what is acceptable or not tends to shift. Thus we should evaluate research according to the requirements and challenges of its type (Freeman et al., 2007, p. 26-27). In other words, it would not do to judge a qualitative study by quantitative standards, which according to Keith Richard (2009) would just devolve into a crude series of alternatives “such as words/numbers, subjective/object, or specific/generalizable” (p.148). It is however important to recognize some of the inherent limitations to qualitative research and this study in particular. Due to the small sample size (three participants, and therefore three batches of data) it would be impossible to form broad generalizations with results.

Qualitative research allows us to delve into personal narratives and “address ambiguous phenomena, generate rich evidence from the everyday experiences, and focus on context.” (Birchall, 2014, p. 1). However this is not meant to stand as an exhaustive final word on the topic, but rather a series of real world experiences which can in turn guide future teachers and help inform their own explorations in the classroom.
3.7 Conclusion

Recognizing the need for transparency in any research this chapter has sought to present a clear overview of the methodologies of my study so that my results might be considered in the context of the environment which informed them. I also offered the reasoning behind a number of my methodological decisions as supported by the work of other researchers before me. Bratling (et al., 2005) wrote that “To do qualitative work well (be valid instruments), we must have experience related to our research focus, be well read, knowledgeable, analytical, reflective, and introspective.” (p. 197). An awareness of ones methods and motivations is an important step towards these qualities, and helps establish and maintain the validity and effectiveness of research. Next this study shall consider the results obtained with the above methods.
Chapter 4

4.0 Introduction

In this chapter the data from two open-ended interviews are presented and interpreted in the context of the overall research questions of this study; how can teachers use digital literacies in elementary classrooms to promote language learning? What are teachers’ attitudes towards the importance of digital literacy in their elementary classroom? What resources and strategies can help teachers overcome barriers when introducing technology and digital literacies to their classroom? Finally, how can teachers ensure that technology is incorporated in meaningful ways?

As elucidated in Chapter 3, participants were sought who had demonstrated a willingness and inventiveness with using technology in their daily classroom. Therefore it was anticipated that there would be a certain degree of overlap in opinion and data from the two interviews. However, once the second interview began it was clear that these would be two very unique and at times polarizing sets of data. In respect to these rival positions taken by participants the data is presented in a multiple case study approach. Yin (2011) suggested that “the cases in a multiple-case study, as in the experiments in a multi-experiment study, might have been selected either to predict similar results (direct replications) or to predict contrasting results but for anticipatable reasons (theoretical replications)” (p.8). While these participants were selected in expectation of direct replications they have instead offered equally valuable, though unanticipated, theoretical replications. Indeed, one of the strengths of a qualitative case study approach is that “the issue is not explored through one lens, but rather a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood.” (Baxter & Jack, 2008, p.550). Hence when faced with two very distinctive and differing sets of data it was
decided the best way to represent the views and experiences of the participants was to
organize the findings through a multiple case study approach.

While initially data from these interviews was to be presented organized
according to themes and categories, it was determined that that approach would not do
justice to the experiences and opinions of the participants in this study. Even though
some threads of commonality can be found, they would not reflect the overall beliefs of
each participants, and forcing a system of coding on the two interviews together would
threaten to minimalize the experiences of one or both participants. Two separate case
studies gives voice to each participants’ beliefs, and demonstrates the respect and value
the researcher has for the opinions of their participants, regardless of whether they match
the initial expectations of the researcher. Yin (2011) also wrote of this necessary
flexibility, stating “you would need to work with your original perspective, but also be
prepared to discard it after initial data collection” (p.9).

With the above in mind, this is how the chapter is organized. Each case study is
presented, considered in relation to the current literature, and its key themes highlighted,
separately. Keeping to the same structure as the literature review which informed this
study and the interview protocol used to gather data, each participants answers are
considered in the order of themes used in Chapter 2; digital natives, multiple literacies,
mindset and proper use, curriculum and policy, and programs and technology.

Finally, any unexpected or key findings drawn from the two sets of data are
considered, as well as how they may relate to the overall direction of the study.
4.1 Case Study A

Participant A has been teaching for 10 years. Nine years was spent in kindergarten and the current year is in grade 5. He has attended courses on SmartBoards, Promethean boards, and iPad apps to help incorporate media and literacy. His school board offered all of these courses. Participant A is also a part of his schools 21st Century Learning Committee. His current classroom is located in a portable, which means he has little access to technology, and no Internet access. His classroom has a projector and a computer. Participant A did not receive any preservice training related to technology when completing his teaching degree a little over 10 years prior.

When asked about the students at his current school, Participant A described most of them as having regular access to technology and the Internet at home. Most have a tablet or smartphone (or both) as well as a computer at home. The surrounding community and families also do regular fundraising and sponsorship events to help ensure access to the latest technologies within the school (supplementing any budget provided by the school board).

4.1.1 Digital Natives

When responding to questions about the need for incorporating technologies into the classroom, Participant A frequently voiced it as a matter of necessity for today’s students. He suggested that embracing the future is the best way to support our students, saying “They are often looking at a screen, and it’s something they are used to, so you know, instead of shying away from that, welcoming that, and if it’s going to help them learn…. This reflects an appreciation of the different ways of learning and knowing
which many studies have advised impact the way students today learn (e.g., Prensky, 2001; Wohlwend, 2010; Hew & Brush, 2007). Participant A also described what they saw as a growing restlessness with students today, as opposed to when they began teaching a decade ago, and believes that digital literacies are “more engaging for [students], and it really captures them all.”

4.1.2 Multiple Literacies

When asked to define digital literacy Participant A responded, “It is the literacy of today.” Asked to elaborate, he suggested. “We’re living in a digital world, so now, you know, going to the library today is a lot different from even going to the library ten years ago. Everything is just, so immediate, so there, so at your fingertips. It’s present, it’s quick, it’s efficient. It’s kinda, um, the way we do things now.” When describing the benefit of digital literacies Participant A suggested they are “more interactive, more textile, and can really hit on specific goals.” However he still claimed to value the benefit to students of traditional literacies, though had trouble expressing what this value is and stated, “The need [for traditional literacy] is still there because that’s something that just doesn’t die.” This reflects the immediacy of digital literacies described by Smith (2001) who discussed the interconnectedness of multiple literacies in our current age, and the variety of decoding skills needed to understand them, which should be understood as an interrelated skill set.
4.1.3 Mindset and Proper Use

When discussing how technology is best used in the classroom, Participant A outlined a student and curriculum driven integration that always keeps the learning goals in mind. This aligned with the research by Clarke (2014) regarding the importance of keeping the learning goals foremost when designing lessons, which integrate new technologies. Participant A warned that “some of the older teachers, they really gotta pick it up or they’re going to fall behind” and cited examples of teachers using technology just to watch movies or play games. He also suggested that working in a school with a great deal of access to technology and programing informed his teaching decisions. Participant A also recognized the challenge to teachers who lacked experiences with or understanding of the technologies available, calling the idea “daunting”. He suggested, “Some teachers have blogs and are doing wonderful things but to someone who is completely out of it and used to overheads and chalkboards it’s a little bit intimidating.” In response to this he suggested small, manageable steps towards integration, and taking the initiative as a teacher to self-educate and find peers within faculty you can learn from.

4.1.4 Curriculum and Policy

Referring to the impact the Language curriculum has on digital literacies Participant A suggested integration was most supported by the media component, but that “other strands of the language curriculum, I think it’s pretty open ended so the teacher can, you know, take whatever route they want to either incorporate technology or not to”. This would suggest that curriculum neither hinders nor especially encourages the use of digital literacies. Borsheim, Merritt and Reed (2008) had similar findings in their study, which saw that policy clings closely to tradition and does not encourage
integration. However board initiatives, such as Bring Your Own Device, in-service trainings, and 21st Century Learning Committees were all brought up by Participant A as examples of how policy is trying to encourage more technologically literate teachers and classrooms. Yet these resources are as easily ignored as incorporated. Participant A suggested it remains up to the teacher and their personal beliefs and comfort level.

In regards to how policy impacts access to technology and its upkeep Participant A was very positive and expressed satisfaction with the resources available within his school and his board. This is in opposition to many studies which saw access and policy as two major barriers (Kinzer, 2010; Kervin, et al., 2013; Hew & Bush, 2006). In part this may be due to the age of the studies – things are moving fast when it comes to technology and education and many board policies are only a few years old. However Participant A also mentioned that a great deal was due to the fundraising and participation of the local community, whose demographics may impact his experience in this area.

4.1.5 Programs and Technology

Participant A is part of what is called a 21st Century Learning Committee, a board initiated program where a small group of teachers from a school attends board run workshops on educational technology integration and then brings this knowledge back to their coworkers through activities such as lunch and learns. This group also looks after the upkeep of hardware and software within the school. This is an optional program, and not all schools within the board partake in it.

Some of the specific examples of using technology cited by Participant A included interactive storybooks, Twitter, class websites, tablet applications, Promethean board programs, and browser usage for research. He emphasized the importance of
technology use being “student driven” and explained that he often looked to his students for ideas – what are they using? What are they interested in? Participant A is reluctant to incorporate video games or educational games, which aligns with research by Hsu and Wang (2010) who found teachers are still reluctant to explore this form of digital literacy, regardless of the positive outcomes seen in numerous studies.

Participant A also explained that technology played an important role in communication and creating a learning community. Similarly Wohlwend (2010) suggested that digital literacy could create a permeable relationship between students’ home life and school life. Participant A used a private Twitter account to communicate with students and their families, and suggested this allowed guardians to be more involved in their child’s learning experience. Pinterest, blogs and Twitter were all used as examples of how Participant A collaborates and shares ideas with other educators around the world.

Participant A frequently cited the engaging element of technology as one of its greatest benefits in the classroom, potentially missing out on some of the other aspects of digital literacy. However it is important to consider his responses in the context of his teaching experience, which is primarily based in a kindergarten environment. Perhaps this informs us about the age appropriateness of digital literacies.
4.2 Case Study B

Participant B has been teaching for 13 years. In that time, he taught 8 years of kindergarten, 5 years of which was special education. The remainder was spent teaching the homeschool program, grades 4, 5 and 6. He is currently teaching kindergarten. Prior to teaching Participant B took courses in computer programing in his undergraduate studies, took computer modelling courses, and has spent time working in IT and large scale networking. He also received training on technology integration with regards to literacy when completing his library AQ. He completed a Master’s degree at the University of Toronto studying institution behavior and moral development.

Participant B describes his students as coming from very well off homes with highly educated parents who are actively involved in their young children’s educations. Students have liberal access to smartphones, tablets, and computers. His current classroom has laptops, a SmartBoard, and an iPad.

4.2.1 Digital Natives

Participant B recognized the frequent exposure his students have to technology in their lives, but viewed this as an alarming development. He pointed out that many pediatricians think too much screen exposure at a young age can be dangerous, and that the American Pediatric Association has taken a stance against young children being given mobile technology like iPads and smartphones as entertainment. He explained that he has been published by the Campaign for Commercial Free Childhood expressing views against overexposure to technology for small children and infants. He also warned against the trend of educators saying “’’Hey, this is here, it’s neat. Our kids are using it so I guess we have to adapt to it and implement it in our classroom right away.’’” This
anxiety regarding the impact of over exposure to technology for young students is not reflected in studies regarding digital literacies and kindergarten students (McKenney & Voogt, 2009; Segers & Verhoeven, 2002) however this may suggest a gap in the research.

When discussing the potential benefit of digital fluency and literacy on the future of our students (a leading reason for exploring digital literacies in education according to numerous studies) Participant B expressed concern for the competitive model of education and thinks that it is the basics (traditional math, literacy, and science) which create the foundation students need for success. He argued “So in terms of being smart about computers, that requires somebody that’s got good concentration, and can think procedurally and logically. And that doesn’t come from using the computer and knowing about computers - that comes from being good at math, and being good at games, and being able to think things through in steps.” He went on to suggest that using children’s time to build websites or learn programming was a waste, as it is a skill they will have time to acquire in university. This is in direct opposition to most of the research in the literature review. Research by both Prenksy (2001) and Hicks & Turner (2013) stressed the immediate need for teachers to adapt and rethink their practice and cited multiple examples of how students as learners have changed. Meanwhile Wohlwend (2010) considered how we must adapt the system to the student and not vice versa.
4.2.2 Multiple Literacies

Participant B defined digital literacies as “an understanding of the digital world” and elaborated on this by saying “it is really quiet divorced from the literacy of decoding print and comprehending the meaning of it. That is literacy instruction through digital media.” This is an interesting division, and instead of seeing digital literacy as entwined with the skills involved in print literacy, Participant B viewed them as quite divorced. Meanwhile many researchers have suggested that multiple literacies involve skills which are unique but very much intertwined with traditional literacies (Razfar & Yang, 2010; Smith, 2001; Borsheim, Merritt, & Reed, 2008). The examples of Participant A’s own classroom practice follow his second definition – the literacy of print taught through digital media – and reflect his strong beliefs regarding the impracticality of digital literacies in elementary classrooms. Discussing his own practice Participant B conceded “what I hope to get out of digital literacy is phonics, basically phonemic awareness, and the connection between a letter symbol and a sound.”

When asked where digital literacy might give students and educators an advantage over traditional literacy Participant B suggested it makes content a little easier to deliver, and can help provide affordable resources (such as levelled readers). He also recognized that it can help struggling or reluctant readers, “especially bright visually oriented boys”. Contrasting this, he believed traditional literacy has a strong advantage over digital literacy in some very big (but hard to define) ways. He stressed traditional literacy is “definitely, absolutely, 100 percent” better for comprehension, going on to state “the printed word is the only thing that conveys, like, the depth and breadth of the human experience and conveys it in a way that profoundly resonates with people.”
4.2.3 Mindset and Proper Use

Participant B said his own practice is led by his students and what they are interested in and respond well to. Within his class, technology is only used when he is present, in the context of a lesson or learning activity. The Smartboard and other technologies are not used for games, as a reward system, or during free time.

It is worth noting how Participant B’s critical view of technology in the classroom may be reflected in the quantity and quality of his integration of technology and digital literacy, which reflects the research showing that teacher attitude has a substantial impact on the use of multiple literacies in the classroom (Grisham & Wolsey, 2006).

4.2.4 Curriculum and Policy

Participant B expressed some frustration that “there is no policy or parental or administrative constraints or encouragement”. At one point a program he was seeing a lot of success with, but which was rather expensive, was cut by his principle due to what he called “school politics”. He also warned against educators being led too directly by the curriculum, suggesting, “We’re a lot more than curriculum delivery specialists, we’re educators. You have to think of it from the perspective, how does this help my student become a, not only academically but intellectually, morally considerate individual, as opposed to just someone who can, you know, navigate a computer.” This aligns with the findings of Borsheim, Merritt and Reed (2008) who saw that curriculum (which in their view clung to the past) has a great deal of influence on teacher mindset. Participant B also worried about the trend in educational policy to adapt and take for granted parts of daily reality which are not fully understood or whose ramifications have not been
completely explored. He called for more “critical literacy” and more oversight when it comes to technology in classrooms.

4.2.5 Programs and Technology

Some of the specific programs used by Participant B include Raz-Kids, EZ Read, and Lexia Learning. Most of his use of digital literacy is focused around the use of digital levelled readers, interactive eBooks his students can access at school and more often, at home. He viewed this as a concession, stressing his would prefer physical books but “paper early readers are expensive and they get bent up easily and the kids are just not as excited about them.” Participant B seemed to believe that there was not much selection for such an early age when it comes to integration of digital literacies, however some studies have looked at programs aimed at kindergarten students and found them to be successful in improving language acquisition and comprehension (McKenney & Voogt, 2008; Segers & Verhoeven, 2002). Participant B also uses a class website to engage and communicate with guardians, giving them a glimpse into the achievements and challenges of the classroom and allowing them to feel present in the daily learning of their children.

4.3 Impact on Study and Researcher

Considering the fact that both participants have the bulk of their experience in kindergarten classrooms, it is important to appreciate the fact that the usefulness of digital literacies may be hampered by the abilities of their students at such a young age. Although some studies support the use of digital literacies in kindergarten classes (McKenney & Voogt, 2008; Segers & Verhoeven, 2002), there is not nearly as much
support as there is for older primary and junior students. In light of this fact it is understandable that most of their usage of technology revolves around basic language acquisition, and building community and communication.

However there also seems to be a lack of understanding and appreciation for the full meaning of digital literacy and the potential for classroom integration. Both participants often confused digital literacy with technology that helps to teach traditional literacy. For example using a web browser to do research for a written assignment is using technology to support traditional literacy. Allowing students to present their research using an application, Prezi, or similar program is taking the next step towards digital literacy.

The experiences of both participants also supports the research which cites a lack of preservice training as one of the major impediments to digital literacies and technology in the classroom (Cviko, et al., 2011). Both participants voluntarily sought out workshops, surfed the Internet for ideas, worked with their peers, or brought in their experiences from outside their role as educators to inform their integration of technology. They took a proactive approach, to varying degrees, and both expressed that it is just as easy for teachers to ignore or misuse the technology they have access to.

Both of the study participants, though taking different stances on the role of digital literacies in the classroom, made strong arguments to support their beliefs. One of the main points they both returned to repeatedly was the benefit of technology in helping to foster community and communication between students, parents, and other educators. Overall the data seems to suggest, as supported by the polar experiences and views presented by two teachers in very similar circumstances, that integration of digital
literacies is still left very much to the discretion of the teacher. The curriculum supports but does not encourage inclusion, meaning teachers, to a degree, can take it or leave it.

The cautious attitude towards technology expressed by Participant B has helped refocus this study and brings an importance reminder that digital literacy and technology should be incorporated carefully and with respect for established methods of teaching the language curriculum. As with anything, there is too much of a good thing. The experiences of both participants have also raised some important considerations about when and how to incorporate digital literacies into the classroom. Even though the integration in kindergarten is minor, it creates a strong foundation that can be built on every year. However this requires digitally literate teachers who are willing to try, willing to experiment, and sometimes, willing to make mistakes.

4.4 Conclusion and Key Findings

One of the key findings in these interviews has been the impact that teacher attitude and opinions regarding digital literacy impact their incorporation. Due to little mandatory training and its minor place in the curriculum, digital literacies are easily misunderstood and disregarded by teachers. While many school boards have begun to offer optional in-service trainings and provided teachers with technological resources to support them, teachers must still be convinced of the value of digital literacies to their students, and taught strategies for meaningful incorporation.

It is also important to recognize and respect some of the very valid concerns and critical thinking which need to go into a digitally rich classroom. How young is too young? How much is too much? However it is also important to avoid all or nothing scenarios, and to be self-critical about the at times romantic value we place on familiar
and traditional techniques. Can there not be a place where both the digital and traditional 
intersect and support one another, instead of vying for dominance?

Behind all of this there remains a grey area where the very definition of digital 
literacy seems to be subjective and unclear. It is too easy to confuse digital literacies with 
technology that teaches literacy, and when we only take technology as far as the latter we 
are missing out on its potential value to our students.

These findings and considerations are further explored in Chapter 5 in which the 
implications of the study are presented with regards to current research and practice. 
Emerging from this analysis are recommendations for educators, administrators, and 
program developers as well as questions worth considering in future research. Finally, the 
study concludes with a deliberation of the relevance of these findings to our current 
understanding of digital literacy and classroom practice.
Chapter 5: Implications and Recommendations

5.0 Introduction

This chapter addresses the broad and narrow implications that stem from the findings presented in chapter 4. It then suggests recommendations for teachers and school boards based on these implications and previous findings. Finally, the chapter identifies areas for further research before concluding with a brief synopsis of the overall significance of the findings presented in this paper.

5.1 Overview

Following interviews with two educators, which provide two rather unique sets of data, three main themes arose: (1) the importance of teacher attitude, (2) the need to recognize concerns regarding over incorporation of technology, and (3) teachers’ understanding of digital literacy. Each of those themes is summarized below.

First, each participant indicated that a teacher’s attitude was the most important factor in how much (if at all) an educator integrates digital literacy into the classroom environment. They suggested that policy and curriculum documents remained vague concerning technology, encouraging its use but not making it mandatory in any substantial way. Furthermore, most of their strategies for incorporating digital literacy were self-taught or learned through voluntary in-service workshops and board initiatives. This supports the research of Grisham and Wolsey (2006) which indicates that teacher attitude has a strong influence on students’ experience of digital literacies in the classroom.

Second, a large part of what influenced these participants’ attitudes was concerns of over incorporating technology and digital literacies at the expense of traditional methods. Each participant placed a romanticized value on traditional literacy, yet
struggled to define its importance in tangible ways. This almost protective attitude about traditional literacy overshadowed the importance of digital literacies to students, as supported by many researchers (Kinzer, 2010; Wohlwend, 2010; Hicks & Turner, 2013).

Finally, each participant struggled to find a clear and accurate definition of digital literacy. This speaks to a lack of preservice training (Cviko, 2011) and influences the ways in which participants understand the place of digital literacies in their classroom. Segers and Verhoeven (2002) suggested that this lack of understanding often leads educators to participate in “edutainment” and incorporate technology in ways that are less than meaningful.

5.2 Implications

By drawing parallels between the major themes elucidated in this study and the current literature, a series of implications has emerged.

5.2.1 Broad Implications

Regardless of the support in the literature, the access to resources, and the encouragement of school boards, teachers are still the final word when it comes to meaningful integration of digital literacy and can embrace or ignore it accordingly. While it is importance to respect the agency of a teacher in their classroom, it is also important to recognize the potential loss to a students’ education. We need to balance this respect for teacher authority with the documented need for digital literacies. This may require more aggressive board training and regulation, and clearer instruction within the curriculum.

Behind this, we find that teachers’ attitudes towards digital literacy are rooted in their understanding of the term, which like the modern world it comes from is constantly
fluctuating and evolving. Even in the literature, the term has a shifting and multi-faceted definition, complicated by the wealth of interchangeable and interrelated terms that accompany it (such as multiple literacies, multiliteracy, electronic literature, etc.). If teachers do not understand the term, then we cannot expect them to understand its potential, or to implement digital literacies in meaningful ways.

5.2.2 Narrow Implications

As a researcher, and as an educator, I entered this study with the firm belief that digital literacies are important to our students and hold a great deal of potential in the future of teaching. While overall these attitudes remain, the cautious attitudes of Participant B have tempered my views significantly. More than ever, it appears as though a balanced approach that prioritizes meaningful integration and works with traditional literacies is most beneficial to our students as language learners. My future practice will undoubtedly reflect this approach.

5.3 Recommendations

The aforementioned implications of the present study lead directly to several important recommendations for educational reform:

- Curriculum planners must integrate digital literacies more clearly in the language curriculum. Both participants indicated that while the Language curriculum allowed for the inclusion of digital literacies, it did not fully encourage or require inclusion, leaving the final decision up to educators. The only place where digital literacies are explicitly called for is within the Media Literacy component of the curriculum, which further segregates and minimizes the importance of digital literacies and often relegates them to a seemingly separate
computers class. By integrating digital literacy more seamlessly within the language curriculum, it would help direct educators and highlight the importance of digital literacy within the overall context of language learning and literacy understanding.

- **Curriculum planners should develop a more coherent definition and understanding of digital literacies.** Both participants had unique and at times contradictory definitions of digital literacy. This is understandable considering that the definition is multifaceted and inconsistent within the literature as well. Often educators confuse digital literacy with the simple inclusion of technology in the classroom. Developing a more clear understanding of digital literacy in preservice education and within the curriculum documents will help educators ensure they are practicing meaningful integration.

- **Teachers and administrators should emphasize an integrated approach, which recognizes both the strengths of traditional and digital literacy.** Both participants appeared to feel the need to place themselves firmly in an either for or against context when it came to digital literacies in the classroom. It is important to avoid this either-or mentality and to encourage strategies that facilitate comfort with integrating digital literacies in meaningful ways, but also recognizes and respects the importance of traditional methods. We can accomplish this through preservice and in-service workshops that avoid hierarchical relationships between the two approaches and instead encourage cohesive and integrated techniques for classroom practice.
5.4 Areas for Further Research

Before addressing suggestions for further research, it is worth considering the limitations of this study. First, there is the restricted sample size. While a qualitative case study of two participants does allow for an intimate analysis of their experiences and beliefs, we must be careful of recognizing that findings from this data cannot be taken as representative of the broader experience of educators. Second, both participants came from schools with similar neighbourhood demographics. Their schools are in upper middle class neighbourhoods and students enjoy ample access to technology both at school and at home. Therefore, discussion regarding access to technology and maintenance of school resources may not be reflective of the experience of teachers in a broader context. Finally, both participants were well-educated males with experience and comfort using technology. Consequently their opinions may not reflect the attitudes of teachers with less training and experience using technology in the classroom.

However, the study, in conjunction with the literature review, highlights areas of further research that could benefit educators and students. Areas of convergence or discrepancy in the participant data, as well as gaps in the literature, suggest that there are still many questions worth exploring.

- A more thorough study of the attitudes of educators in Ontario towards digital literacy and technology in the classroom.

- Investigate the impact of the Language curriculum on educator’s inclusion or exclusion of digital literacy in their classroom.

- An analysis of the impact or influence of preservice education on teachers’ attitudes towards and familiarity with digital literacy.
• Compare the access and attitudes of teachers in diverse socio economic areas to digital literacy and technology in their classroom.

5.5 Conclusion

Definitions and concepts of literature and literacy have as a necessity become fluid and permeable to encompass the wealth of multiliteracies now represented in our digitally rich culture. As Kinzer (2010) wrote, literacy now involves more than “encoding and decoding alphabetic/linguistic elements” (p. 52). Numerous studies have proven the importance of providing a digitally rich and meaningful language education to our students, to promote their future engagement in society. The question this study sought to understand was why are we still struggling to find multiliteracies and technology in our classrooms?

In response to this, the study has shown that there is still a great deal of work required to change teacher perceptions and understandings of the importance and potential of digital literacies in the language classroom. While school boards have increasingly offered technological resources and provided in-service trainings, all of these resources remain optional, and a shift in teacher mentality is required to motivate educators to use the resources available to them. This requires clarifying teacher understandings of digital literacy, making available strategies that intertwine digital and traditional literacies and developing changes to both curriculum and policies that clarify the importance of digital literacy to our students and eliminates the ability for educators to avoid or ignore technology in their classroom.
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APPENDIX A: Consent Form

Date: September 17\textsuperscript{th}, 2015

Dear ________________.

I am a graduate student at OISE, University of Toronto, and am currently enrolled as a Master of Teaching candidate. I am studying the use of digital technology and digital literacy in elementary classrooms as a major assignment for our program. I will be looking at best practices and strategies which may help teachers incorporate digital literacy into their language classroom, as well as the various resources, barriers (within curriculum/policy), and attitudes surrounding a technologically enriched elementary classroom. I think that your knowledge and experience will provide insights into this topic.

I am writing a report on this study as a requirement of the Master of Teaching Program. My course instructor who is providing support for the process this year is Dr. Ken McNeilly. The purpose of this requirement is to allow us to become familiar with a variety of ways to do research. My data collection consists of a 30-40 minute interview that will be electronically recorded. I would be grateful if you would allow me to interview you at a place and time convenient to you. I can conduct the interview at your office or workplace, in a public place, on the phone, over skype, or anywhere else that you might prefer.

The contents of this interview will be used for my assignment, which will include a final paper, as well as informal presentations to my classmates and/or potentially at a conference or publication. I will not use your name or anything else that might identify you in my written work, oral presentations, or publications. This information remains confidential. The only people who will have access to my assignment work will be my research supervisor and my course instructor. You are free to change your mind at any time, and to withdraw even after you have consented to participate. You may decline to answer any specific questions. I will destroy the tape recording after the paper has been presented and/or published which may take up to five years after the data has been collected. There are no known risks or benefits to you for assisting in the project, and I will share with you a copy of my notes to ensure accuracy.

Please sign the attached form, if you agree to be interviewed. The second copy is for your records. Thank you very much for your help.
Yours sincerely,

Researcher name: Samantha Shannon McCord

Phone number ___________________  
Email: ________________________

Instructor’s Name: Ken McNeilly  
Email: ________________________

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 at any time without penalty.

I have read the letter provided to me by Samantha Shannon McCord and agree to participate in an interview for the purposes described.

Signature:________________________________________

Name (printed): ________________________________

Date: __________________________
APPENDIX B: Interview Protocol

Background Information

How long have you been teaching? What grades have you taught?

What kind of technologies do you and your students have access to at your school?

Do you have any preservice training related to technology? Have you done any professional development related to digital literacies or technology? Have you done any research?

What kind of access to technology do your students have outside of school?

Beliefs/Values

What led you to incorporate technology into your literacy classroom?

How would you define digital literacy?

What importance do you believe digital literacy has to your students’ futures?

How do you ensure technology in the classroom is used meaningfully? That it is lending to education, not solely entertainment?

Influencing Factors

How does current policy impact your ability to have a technologically rich literacy program?

Does the language curriculum support the importance of digital literacies to our students’ education?
What resources do you use to educate yourself and to help you prepare to incorporate digital literacy in your classroom?

What kind of feedback have you received (from students/guardians/peers)?

**Teacher Practices**

How do you incorporate digital literacies into your classroom? What kinds of resources and technologies do you use?

Could you give me some examples of how technology helps you reach literacy learning goals?

What kinds of skills do you think digital literacy helps foster? Are there any skills you think digital literacy helps teach better than traditional literacy (and what are they)? Are there areas where traditional literacy is more appropriate (and what are they)?

**Next Steps**

What advice do you have for other teachers who want to achieve a digitally rich classroom?

What changes to policy and curriculum would you like to see with regards to literacy learning and/or technology?

What plans or goals do you have for technology with regards to your own future literacy programs?