Exploring The Use of iPads in Grade 1 Balanced Literacy Program

By

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Abstract

Balanced literacy programs are a very effective approach to improve students’ literacy, but students have shown less and less interest in learning through the traditional ways, e.g. paper and pencils. Research indicates that iPads are a great tool to motivate early year students in learning. Therefore, this research aimed to explore how Grade 1 teachers use iPads as part of their balanced literacy program and to hear what outcomes teachers observed from students. This research study was conducted using a qualitative research approach, and data was collected through semi-structured interviews with two Grade 1 teachers.

This research found that 1) teachers use iPads more commonly in read aloud, guided reading, and word study than shared reading and independent reading; 2) teachers are supported by their school board but less so from schools and colleagues 3) teachers encountered many challenges, including behaviourial, technological, and institutional limitations; and 4) teachers observed that students were fully motivated by using iPads but it was very hard to assess the progress that students attained in reading proficiency through using iPads. These findings will contribute to the future studies on using iPads to support students’ learning.

Keywords: iPads, balanced literacy program, Grade 1 students
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Chapter 1: Introduction

1.0 Introduction to the Research Study

Reading competence is the foundation for school success. The Ontario Ministry of Education (2006) describes children’s love of reading as “the most valuable resources students can take with them into adult life” (p.10). The Ontario Curriculum for Language from Grade 1 to 8 defines a well-balanced reading program as one that not only inspires students to discover useful information but also brings the pleasure of “self-discovery and self-enrichment” (Ontario Ministry of Education, 2006, p.10). Balanced literacy program that includes word study, read aloud, guided reading, shared reading, and independent reading provides differentiated instruction for varying levels of students’ needs and scaffolds instruction that gradually allows students to take ownership of their learning (Fountas and Pinnell, 1996; Fitzgerald & Cunningham, 2002).

iPads are increasingly recognized as an instructional tool to facilitate reading programs. Several studies (Larson, 2010; McClanahan, Williams, Kennedy, & Tate, 2012; Siegle, 2013) have remarked on the effectiveness of using digital tablets to improve students’ reading proficiency by attaining reading gains, more attention, and greater motivation and engagement in reading. Thus some school boards have started to devote a considerable portion of their budgets toward “technological resources” (Hixon & Buckenmeyer, 2009). Researchers have found there are more benefits than the risks when iPads are integrated in Grade 1 students’ learning, such as
students staying on task for 15%-20% longer time than usual when they were using iPads for learning (Getting & Swainey, 2012).

In 2014, in an effort to reduce the learning gaps in literacy between high-income neighborhoods and low-income neighborhoods, the Toronto District School Board (TDSB) gave 20 iPads to Grade 1 classrooms in 129 Model Schools for Inner Cities (MSIC). The MSIC program is committed to ensuring that every student succeeds and every family and community has access to the same opportunities and social supports. They also gave 10 iPads to an additional 100 schools to develop students’ modern techniques for 21st century literacy (TDSB, 2014). These initiatives provide a great opportunity to explore how iPads can be integrated in a balanced literacy program.

1.1 Research Problem

Teachers are playing a significant role in integrating iPads in teaching. Culen and Gasparini (2011) demonstrated that one of the academic factors that contributed to the success or failure of integrating iPads project was the core values of teachers. However, noticeably, Ontario Ministry of Education (2012) criticized that some teachers still need to be convinced the value of integrating technology to enhance the curriculum. Teachers worry about the embarrassing moment in front of their students when they come across the challenge to use the technology (Hixon & Buckenmeyer, 2009). They are also concerned about technology changing the original process of teaching and learning, which causes the disconnection between new literacy and curriculum (Tierney, Bond, & Bresler, 2006). Some teachers are reluctant to let students be in
charge of the class, because they feel insecure about not participate in students’ learning (Nisan-Nelson, 2001).

In addition, assessment about how much iPads support students improve reading is very hard to achieve. Researchers have responded that scientific studies on the effect of technology and electronic devices are hard to be achieved yet (Culén & Gasparini, 2011; Rhodes & Milby, 2007), because applications, e-books and learning games have changing degrees of effectiveness (Balajthy, 2007; Hasselbring & Goin, 2004). Lastly, during the process of using iPads, the Wi-Fi connection might become an issue to lower teachers and students’ passion in using iPads. In the study of Culen and Gasparini (2011), one of the factors that the group of upper-grade students failed to use iPads well in learning was not reaching the internet.

1.1 Purpose of the Study

The purpose of this study was to explore how teachers are using iPads as part of their balanced literacy program and to learn from them what outcomes they observed for students’ reading proficiency. In order to reach this expectation, the research paid attention to the ways that grade 1 teachers use iPads as a learning tool in their balanced literacy program. I was also interested in examining the challenges teachers and students face when using iPads to develop reading proficiency.

Recent researchers have described one of the challenges for integrating iPads into education is that it is hard to have scientific studies to measure its effectiveness (Benevides, 2013; Culén, 2011; Rhodes & Milby, 2007). This research study will discuss students’ reading progress based on the observations of teachers instead of a statistical measurement. However, the expectation
that TDSB has for all students to reach a minimum Developmental Reading Assessment (DRA) level of 16 by the end of grade 1 will be considered (TDSB, 2014).

1.2 Research Questions

The main question guiding this research study was: How does a sample of grade 1 teachers integrate iPads in their balanced literacy program and what outcomes do they observe for students?

Secondary Questions

1. What factors and resources support these teachers' instruction with iPads as a tool for their balanced literacy program?

2. In what ways do these teachers use the iPads in their balanced literacy program?

3. What challenges do they encounter using iPads for balanced literacy?

4. What range of outcomes have they observed from their students?

1.3 Background of the Researcher

In my life, I have seen colleagues, students, and myself benefiting from reading proficiency. Without reading tons of English classic novels in high school, as a Chinese student, I would not have fostered a strong sense of curiosity and resonance about western culture. I couldn’t find answers to my confusions if I do not read professional books or articles. Everything that I have read sharpens my mind, completes my personality, develops my career, and enlightens my life. Great minds express their thoughts through words and have an impact on readers. That is why I wish my students can foster their love of reading early in life.
Since I started teaching English to English Language Learners in China, I kept exploring the effective approaches to arouse students’ interest in reading in English and develop their reading proficiency. When I learnt Balanced Literacy Program in Literacy course at OISE, I was amazed by it. I found Balanced Literacy Program (i.e.g read aloud, shared reading, guided reading and independent reading) perfectly combines holistic learning and phonetic learning, which should help students make progress in learning the language well.

My interest in integrating iPads in teaching early years students was generated during my practicums. My associate teachers and other staffs were using iPads to facilitate teaching. It was amazing to see how excited students were when they had the chance to play applications on iPads for learning! Thus I began wondering if teachers can use iPads to carry out word spelling practices, quizzes, reading online picture books, and co-write stories online with others, how motivated students would be! Therefore, I decided to conduct this qualitative research to find out how iPads facilitate first graders’ reading development. I also hope this research study can promote further research on incorporating technology in education.

1.4 Overview:

Next, Chapter 2 contains a review of the literature in the areas of balanced literacy program and how technology has been incorporated to improve students’ reading and what challenges and solutions teachers have gained. Chapter 3 provides the methodology and methods used in this study including information about the sample participants and data collection instruments. In Chapter 4 I report the research findings and discuss their significance in light of the literature.
Chapter 5 I make recommendations for practice and further reading and study. References and a
list of appendixes follow at the end.

Chapter 2: Literature Review

2.0 Introduction to the Chapter

As my research topic is exploring how iPads are integrated into balanced literacy program,
this literature review begins in the area of how balanced literacy program, particularly read aloud,
guided reading, shared reading (which includes word study), and independent reading, has been
put in place to improve students’ reading competency. In the actual classroom, these elements
are more commonly integrated as a program, but in order to display the functions of each
element more clearly, I discuss them individually. Despite abundant and obvious benefits,
research shows that there is still room for improvement in the balanced literacy program model.
Next, I move onto reviewing the literature on the benefits of using iPads in the early years. The
last part of this literature review looks at research on the challenges that teachers and students
have met when using iPads in reading programs.

2.1 Balanced Literacy Program and Students’ Reading Proficiency

Balanced Literacy approaches were once regarded as the dominant approach for a school’s
reading instructional program (Cunningham, 1999). Fountas and Pinnell (1996) introduce
Balanced Literacy as a strategy seeking to combine, or balance, skill-based and meaning-based
instruction in order to ensure positive reading and writing results in children.
Balanced Literacy aims to offer differentiated instruction to help each student become a fluent reader. It requires teachers to provide students with “varying levels of support based on children’s needs” (Fitzgerald & Cunningham, 2002) as well as “scaffolded instruction, or gradual release of responsibility” (Mooney, 1990; Fountas & Pinnell, 1996). It involves children in a range of reading contexts that can be adjusted and varied to meet students at different levels of competence and with different interests (Lyons & Pinnell, 2001, p.36).

There are four reading elements of the framework of Balanced Literacy: Read Aloud, Shared Reading, Guided Reading, and Independent Reading. The elements are not separate; however, each element should be discussed individually so that they could be focused on (Fountas & Pinnell, 1996, p. 25). Read aloud is the level that students get the most support from teachers or parents. Teachers read stories to students in order to engage them in texts that they might not be able to read. As such, students are mainly involved in listening, questioning and sharing. Shared reading, also called shared book experience, was started by Holdaway (1979) as a way to re-create in the classroom the one-on-one reading experiences children have with caregivers. In shared reading, large texts allow an entire class to see the text as they read along with the teacher (Gill, 2006). Guided reading provides an opportunity for [teachers to support] small groups of children within the same developmental reading stages to apply strategies they already know to texts they do not know. The texts are carefully matched to the children so that they can apply their strategies to overcome the challenges in the text and read it independently.
with success (Hornsby, 2000). *Independent reading* allows children to choose the suitable texts and read them quietly by themselves and students take full control of the whole process.

These are all ideal pedagogies that teachers are expected to implement in real classes. However, it’s also not surprising that some researchers have found not all aspects have had been successfully implemented in classrooms. For example, in one study of balanced literacy in an urban school district, Frey et al. (2005) demonstrated that *independent reading* and writing activities occurred most frequently among all the elements in Balanced Literacy, which suggests that teachers may not be providing adequate modeling and instruction of essential literacy component skills, either skills- or meaning-based (Bingham & Hall - Kenyon, 2013). This suggests that teachers might not recognize the importance of each element of Balanced Literacy, or, they may find challenges applying this literacy pedagogy in real classes. Therefore, it is significant to emphasize the importance of each element and focus on the issues from implementation.

**2.1.1 The Implementation of Read aloud**

In read aloud, teachers read the texts that students are not able to read but have strong interests in, for instance, a story book. With the involvement of listening, questioning and sharing, students are exposed to the structures of language that they will need in the future. *Read aloud* develops students’ comprehension of their language and help them to build up “a repertoire of text structures and literacy language structures” (Fountas and Pinnell, 1996; p.25). Through *read aloud* students are able to connect the pronunciations to pictures and their syntax
cueing system and semantic curing systems are promoted (Adago, 2004). Peterson (2002) defines the semantic cueing system as “the meanings of words and background knowledge and experience with the words and topics of the text” and the syntactic cueing system is “the order of the words in sentences (grammar is the set of rules that govern a language syntax)” (p.10). Along with the development of these two cueing systems, students bring listening vocabularies to oral language, reading and writing. In other words, the amount of oral vocabulary that students accumulate through read aloud impacts on their whole level of literacy proficiency (Fountas & Pinnell, 1998).

2.1.2 The Implementation of Shared Reading

*Shared reading* could be one of the most enjoyable and risk-free literacy pedagogies for children because it allows both the advanced and struggling readers to enjoy reading from more advanced texts through teacher modeling reading with fluency and expression while students follow along. The support that the teacher offers to students fosters their positive qualities, i.e. confidence, risk taking and a love of reading. “Shared reading builds self-esteem and a sense of community as it leads children into literacy” (Fisher & Medvic, 2000; p. 13).

Don Holdaway (1979) introduces a three-stage model to implement *shared reading* in The Foundation of Literacy: discovery, exploration, independent experience and expression, which is a pleasant experience for children (p.71). Through *shared reading*, students learn from teachers’ modeling as well as peers’ reading. By observing teachers modeling reading, students learn what fluent reading looks like and sounds like. Also, they gain ideas on independent reading and how
to use reading strategies to read challenging texts (McLaughlin & Allen, 2002). With the chance to read together as a community, struggling readers can learn from the capable readers. Fisher & Medvic (2000) declared the importance of shared reading as it creates a community to develop students’ confidence to seek their own way of learning.

*Shared reading* has also been regarded as an expansion of a bedtime story situation within the class, a group of children or an individual child (Mooney, 1990). It is often set up with children seated on a carpet, sometimes with pillows, around a teacher who might be seated on a rocking chair (Adago, 2004). Research suggests that the same terms we might use to describe the feelings experienced during a bedtime story are the feelings we should pursue during *shared reading*: humorous, playful, relaxed, respectful and cozy (Fisher & Medvic, 2000, p.6).

To implement *shared reading*, the teacher has to be flexible with the reading context and what students request to hear. Without a doubt, students’ interest should be considered foremost. For one, the texts for shared reading should have “charm, magic, impact and appeal” (Mooney, 1990, p.4). Usually, children like to choose their own reading materials for bedtime reading, and would like to hear it again and again until they are even able to read the stories.

### 2.1.3 The Implementation of Guided Reading

Guided reading has been a popular and effective reading approach for years. It is a key instructional component of balanced literacy program (Fountas & Pinnell, 1996 &1999; Holdway, 1979; Mooney, 1990). In *guided reading*, students are grouped according to their
USING IPADS IN BALANCED LITERACY

reading levels. Teachers choose leveled books to meet students’ specific needs. Through teachers’ instructions, students learn how to take words apart and have a deeper understanding of a text. Fountas & Pinnell (2012) state that students usually go through three stages in the guided reading approach. More particularly, students think about the text before reading, understand the content of the text while reading, and culminate what they have learned and share the relevant opinions after reading. The purpose of guided reading often focuses on providing scaffolded instruction for students, because it leads to independent reading (Fountas & Pinnell, 1996).

One of the most challenging issues for teachers to implement guided reading more smoothly is how to arrange other groups while the teacher is working with one group for reading. Ford and Opitz (2008) found that students spend as much as 132 minutes a week working without teachers’ guidance while the teacher is working with small groups. They also revealed that 72% of participant teachers in their survey relied on learning centers, which provide students materials, designs and media to work by themselves or with others to enhance the learning concepts and skills. 62% of these teachers used independent work to engage students during guided reading time. Therefore, finding a solution to set up well for the rest of the groups is challenging. Fountas & Pinnell (2012) suggested that teachers create a community of readers and writers, so that students can do literacy independently while the teacher is working with a group during guided reading. Fountas & Pinnell (1996) also pointed out that teachers should avoid activities like coloring or fill-in-the-blank worksheets, because they are not beneficial for students to develop reading competency.
The running record is an essential and ongoing assessment for guided reading, because teachers can locate the level that fits students’ independent reading (Clay, 1993). More than 70% of students in Ford and Opitz’s survey (2008) reported using observation and running records and/or informal reading inventory to assess students. Both the teacher and students are looking at the same text and the teacher watches students closely and codes behaviors on a separate form or a blank piece of paper (Fountas & Pinnell, 1996; Clay, 1993). Therefore, developing running records contributes to a better quality of guided reading program.

2.1.4 The Implementation of Independent Reading

Independent reading allows students to choose the reading materials, read them on their own and read in a flexible time. With sufficient experience that students gain through read aloud, shared reading, and guided reading, they finally understand what they are interested to read and how to read the text effectively. Moss & Young (2010) specifically discussed about the five benefits of independent reading, which are increased vocabulary development, greater domain and background knowledge, better fluency and comprehension, improved reading achievement, greater interest in books and motivation to read.

There are various ways for teachers and students to find a book that matches students’ level. Example, teachers could use students’ accuracy scores from the running records to select texts. For students, they can conduct a five-finger test. Early year students can use fingers to count the number of words that they have difficulty in comprehension. If all five fingers are used before
they finish a page, the level of the book is considered as beyond students’ actual level. For older
students, they can record the difficult words on paper while reading (Moss, 2009).

2.2 Integrating iPads into Balanced Literacy Program

Using tablet devices for education used to be disputed. Some believed multifunction of
online materials and applications may prevent students from understanding the whole text
(Burrell & Trushell, 1997; Matthew, 1996). However, researches have shown distinct benefits that
iPads bring to students’ learning. For example, students increase sight word fluency and high
levels of engagement during the iPad instruction (Musti-Rao, Lo & Plati, 2014). Kindergarten
students are capable of transferring their experiences with fairy tales to the narrative in a digital
context when using the application Puppet Pals (Sandvik, Smoral & Osterud, 2012). By using
iPads, students are more willing to finish journal entries than writing with paper-and-pencil, and
both the quality and quantity of their writing were improved (Harmon, 2012). This section will
introduce the advantages and challenges of using iPads into Balanced Literacy Program and the
literatures on integrating iPads into early year learners.

2.2.1 Students’ Motivation and Engagement

Some researchers indicated that an increasing number of students are showing less
engagement in traditional lessons with print texts while more students are motivated to read
electronic materials after they interact with the multimodal text (Glasgow, 1996; Larson, 2009;
McKenzie, 2009; Schmar-Dobler, 2003). Driven by their interests, students have a tendency to
spend more time on online reading. Foehr, Rideout, and Roberts (2005) reported that students aged 8-18 years spend 48 minutes each day reading online compared to reading 43 minutes per day offline. Green, Facer, Rudd, Dillon, and Humphreys (2005) also noted that an average person will have spent the most hours in front of computer by the age of 21, comparing the time they spend on formal education and TV. On the other hand, Benevides (2013) discovered that iPads have brought a significant increase in motivation for reading by the three proficient readers and two struggling readers. With the text-to-speech function, struggling readers can participate in conversations about ‘popular books’ with their peers and still work on independent reading skills at their own level.

2.2.2 The Benefits of E-books

E-books are written and viewed on electronic devices, such as iPads. A variety of free e-books are easily to be accessed, so they become very useful resources for teachers (Siegle, 2013). Vollen (2011) also asserted that technology shortens the road of students’ learning because they may read the school relevant materials at home. By being portable and offering a large amount of reading materials, the iPads are becoming a popular choice among student. More importantly, e-books can support students’ reading through the manipulation of font size, text-to-speech options, expandable dictionary and note capabilities (Larson, 2010). With the help of iPads, students are able to look up unfamiliar words through the built-in dictionary and review the phonetic spelling of words to help “sound out” text. When students encounter the difficult
pronunciations of some words during independent reading, the text-to-speech feature can help them listen to the words.

The International Reading Association (IRA, 2009) stressed the importance of integrating information and communication technologies (ICTs) into literacy programs. As a matter of fact, researchers have found that students have more interactions with e-books than the traditional texts which were regarded as “a passage of print or a slice of speech, or an image” (Lankshear, 1997, p.45). Larson (2010) discovered that students gave the extensive responses to the e-books by transferring their thoughts through annotations. Students showed their understanding of the story and made personal connecting as well as raising questions and providing feedbacks to the text.

2.2.3 The Apps for Balanced Literacy Program

One of the most significant factors for the popularity of using iPads in literacy is that the Apple Store has more than 275,000 apps designed for iPads, and a plethora of them are free or low-cost apps (Siegle, 2013). The first user-friendly attribute for apps is that because of the touchable screen, early age learners can learn how to operate the apps easily and quickly. In addition, comparing with the traditional paper-pencil worksheets, apps meet the needs of different styles of learners, such as audio learners, visual learners and kinesthetic learners (Raggi & Chronis, 2006), as they provide animations, pronunciations and games. Moreover, with the speech recognition technology designed with apps and software, students have persistent metacognitive patterns of interaction (i.e. self-correction and repetition during reading) and word
value interaction (i.e. reading a similar word), which are very beneficial for developing students’ reading competency (Kartal, 2006).

Some useful types of apps for balanced literacy programs include course recording apps, such as *ShowMe*, *Educreations* and *Nearpod*. With these apps, teachers can create lessons for students and save the presentation or PowerPoint for students to review later (Siegle, 2013). In *Nearpod*, teachers can even set up questions and homework in the lesson, and once students log in the virtual classroom, teachers can see students’ names on the list simultaneously (Delacruz, 2014). These apps could be used for guided reading and shared reading programs. When students are at home, they still can seek the assistance from teachers by reviewing the content and answering the questions online.

The second type of apps is about recording students’ works, ideas and assessments in class, i.e. *PicCollage*, *Record of Reading*, and *iMovie*. *PicCollage* is an app that teachers can place the pictures together with texts, video, and stickers, etc. In terms of balanced literacy programs, these apps could be integrated with read aloud, shared reading and guided reading. During read aloud and shared reading, teachers can record students’ discussions after reading a book to them. In guided reading, *Record of Reading* is an app designed for running records that is very essential for assessing students’ reading. It provides teachers a very professional and detailed form to record students’ performances via texts or voices.

The third type of apps are those that allow students to create their own stories or add captions for pictures, which could be implemented in independent reading and guided reading.
iBooks, Pebblego, Book Creator, My Story, Chatter Pix. iBooks and Pebblego are the apps for reading online materials while Book Creator, My Story, Chatter Pix offer the chance for students to either give feedback on the book they have read or extend the story of the books.

The fourth type of apps is about word study, such as SpellingCity and Elmo Loves ABCs. Vocabulary memorizing is the most sizeable and unmanageable component is learning languages (Yang & Dai, 2012). These apps provide interactive games for students to learn the words with fun. SpellingCity even allows teachers to input the lists of words that they would like students to review. Elmo Loves ABCs teaches beginners to read and write the alphabets with engaging games, videos, and coloring activities. These apps could be great educational tools for balanced literacy programs for early grades. To date, there is little research on their effectiveness toward this end.

2.2.4 The Challenges of Integrating iPads into Balanced Literacy Program

Even though there are abundant advantages that iPads can bring to teaching and learning in Balanced Literacy Program, the challenges are also evident. This section will mainly discuss the following issues: the difficulty in assessing the outcome of students’ progress with the support of iPads, how teachers’ attitudes affect students to us iPads and other technical problems, including internet issue, time balanced and storing the files.
2.2.4.1 Assessment of Using iPads

According to the U.S. Department of Education (2016), technology can offer the chance for students to become more collaborative and broaden their learning apart from the classroom. However, the use of technology has been explored vastly in the recent years. Hixon & Buckenmeyer (2009) commented that teachers have paid more attention to computers to research and students use computers to enhance their learning. Despite the increasing popularity of technology integrated in education, scientific studies have not achieved the results on the effect of technology and electronic devices (Culén, 2011; Rhodes & Milby, 2007). What is beginning to be known is that applications, e-books and learning games have been changing degrees of effectiveness (Balajthy, 2007; Hasselbring & Goin, 2004).

2.2.4.2 The Role of Teachers in Implementing iPads in Teaching

As the ones who are incorporating iPads into teaching in the classrooms, the attitudes and knowledge of teachers play a crucial role. Culen and Gasparini (2011) reported that one of the academic factors that contributed to the success or failure of integrating the iPads project was the core values of teachers. In their study, the university professor firmly believed that using iPads would take considerable time whereas the elementary school teachers had no such belief and used iPad regularly and consistently during classes. Still, some teachers still need to be convinced the value of integrating technology to enhance the curriculum (Ontario Ministry of Education, 2012).
But what causes some teachers’ nervousness of using electronic devices in class, i.e. iPads? First of all, teachers might have less confidence in operating the devices well. Teachers worry about embarrassing themselves in front of their students when they run into challenges integrating technology (Hixon & Buckenmeyer, 2009). In addition, some are concerned about technology changing the original process of teaching and learning, which causes the disconnection between new literacy and curriculum (Tierney et al., 2006). Actually, teachers are not worrying wrong. Lynch and Redpath (2014) displayed that the broader policy, curriculum context, and institutionalized practices of early years literacy education, is potentially opposing the teacher-held intentions to transform learning through technology use, particularly with respect to tensions between print-based traditions and new digital literacies. Also, some teachers are reluctant to let students be in charge of the class, because they feel insecure about not participating in students’ learning (Nisan-Nelson, 2001). At last, some teachers lack the motivation for professional development. Apparently, offering teachers specialized training on using the iPads is the first priority for educational sectors. However, very limited research has looked at how to guide teachers to enrich their knowledge of using technology in teaching.

### 2.2.4.3 Technical Concerns for Using iPads

Currently, implementing an iPads project requires a Wi-Fi system. In the study of Culen and Gasparini (2011), one of the factors that challenged students’ participation was the internet. During a Toronto District School Board (TDSB) workshop which was to guide teachers to integrate iPads in literacy successfully, I heard quite a few teachers reporting the Wi-Fi issues. In
some schools, students could not use their TDSB students account to connect to the internet, so teachers had to either log into every iPad with their own accounts or move the class to the computer lab. If teachers and students can gain access to the Wi-Fi more easily, they will have more pleasure to try out iPads for teaching and learning.

Another very essential factor that influences incorporating iPads is whether students have ample time to explore iPads. For upper-grade students, if they are too busy with the coursework to find out how to take advantage of applications for learning, they will lose the interest to use it. Culen and Gasparini (2011) explained that those students have time pressure for a great mark in the class. In other words, if students have light pressure of grades and they do not have a tight schedule, iPads could be implemented better.

The last but very important factor is some technical challenges become obstacles for teachers and students, including, for example, devices do not sync properly in mass quantities and the iPad 1 is not compatible for projection (Getting & Swaine, 2012).

2.3 Integrating iPads in Early Year Students’ Learning

Allowing early year students to use iPads for their school learning is a brave step, but it is not a bad move. As a matter of fact, iPads have been proved that benefits are far outweighed the risks (Getting & Swaine, 2012). Grade 1 students gained a 15%-20% increase in staying on task while using iPads to support their learning and they were more willing to participate in activities that were organized by the teacher (Getting & Swaine, 2012). Research also demonstrates that
iPads can support independent use by early year learners because of the portability, “touch” screen, and simple navigation system (Lynch & Redpath, 2014). With the use of iPads, children’s positive engagement, verbal activity and their will to cooperate with the teacher and peers were obviously improved (Sandvik et al., 2012).

2.4 Conclusion

In this literature review, I looked at the research in the areas of balanced literacy programs and using iPads in students’ learning. Firstly, I discussed about how each element of balanced literacy program can contribute to developing students’ reading proficiency. Then I proceeded to how iPads can develop balanced literacy program to improve students’ reading competency as well as the difficulties during implementation. The above literature reviewed has given me the insight on my research topic and research method. They particularly lead me to the deeper thinking on how the sample of teacher participants in this research conquer the challenges and develop quality balanced literacy programs for Grade 1 students. However, there is rare research about how iPads are used in balanced literacy program to support Grade 1 students, so this research aims to make contribution to this filed.
Chapter 3: Research Methodology

3.0 Introduction

This qualitative research study aimed to learn how teachers use iPads in their balanced literacy programs and what outcomes they observe for reading proficiency. In this chapter I describe the research methodology. I begin by reviewing the general approach, procedures, and data collection instruments, before elaborating more specifically on participant sampling and recruitment. I explain data analysis procedures and review the ethical considerations pertinent to my study. Relatedly, I identify a range of methodological limitations, but I also speak to the strengths of the methodology. Finally, I conclude the chapter with a brief summary of key methodological decisions and my rationale for these decisions given the research purpose and questions.

3.1 Research Approach and Procedures

This research study was conducted using a qualitative research approach and the procedure included establishing the research problems, reviewing the relevant literature, conducting the semi-structured interviews, data analysis, and reporting the findings. Creswell (2013) gave the definition of qualitative research as follows: Qualitative research starts with forming the research problems. The researchers use an approach to inquiry the participants in order to study the problem. The data analysis is both inductive and deductive and usually follows up the patterns or themes. The final written report or presentation includes the voice of participants, the reflexivity
of the researcher, a complex description and interpretation of the problem, and its contribution to the literature.

I chose to do quantitative research because it provided the chance to hear the detailed perspectives from participants, and the interviews helped me have a deeper understanding of the research problem. Creswell (2013) also described the situations to use qualitative research when we need to study a group or population, or when we need a detailed understanding of the issue, or when we want to empower individuals to share their stories and hear their voices.

3.2 Instruments of Data Collection

The semi-structured interview protocol is a pre-designed form used to record information collected during an observation or interview (Creswell, 2013). There are a few benefits of preparing the interview protocol. The use of a semi-structured interview protocol enables the interviewer to design questions while also creating space to follow the topical trajectories that may stray from the protocol when this is appropriate (Cohen & Crabtree, 2006). The interview protocol allows the interviewer to take notes about the responses of the interviewee. It also assists the researcher to organize thoughts, such as how to start and end interview and how to conclude ideas (Creswell, 2013).

The primary instrument for data collection used in this study was semi-structured interview protocol (see appendix B). The format of the semi-structured interview protocol allowed the interviewer to design and plan an interview that informed the research focus while leaving room
for participants to set forth and add new information that the interviewer may not have included. In my research study, the interview provided enough space for participants to share their experience and perspectives on how to use iPads in balanced literacy program. Meanwhile, the list of prepared questions helped me keep the interview on the right track and the recording and notes were valuable for my data analysis.

3.3 Participants

In order to recruit the suitable participants, I firstly established the sampling criteria, and then I reviewed a range of possible avenues for teacher recruitment. Also, there is a section where I introduced each of the participants.

3.3.1 Sampling Criteria

The goal of this research was to help me learn how iPads can be used as an instructional tool for developing literacy. In turn, it was necessary to find exemplary practitioners who could provide me with information about their own experience in relation to their classroom practices. I selected the participants through the following criteria:

1) Teachers had the experience in teaching Grade 1. This research focused on Grade 1 students, which required teachers to have the relevant working experience in a Grade 1 classroom.
2) Teachers had the experience in using at least 10 iPads in Balanced Literacy Program (e.g. *read aloud, shared reading, guided reading and independent reading*). Thus they could reflect on how students used iPads to improve reading proficiency.

3) They have worked as a public school teacher for more than five years, so that they have a range of experience to draw on.

### 3.3.2 Participant Recruitment

The concept of purposeful sampling approach is usually adopted in qualitative research. It allows inquirers to choose individuals and sites for study to develop an understanding of the research problem and central phenomenon in the study. The researchers need to decide who or what should be sampled, the form that the sampling will take, and number of people or sites need to be sampled (Creswell, 2013). In terms of the form that the sampling will take, there are several strategies available, such as snowball, purposeful, criterion, and convenience. Different sampling strategies have their own traits. For example, snowball identifies cases of interest while purposeful helps select the sample when potential purposeful sample is too large (Creswell, 2013).

Since I am immersed in a community of teacher colleagues and mentor teachers, in this research, convenience sampling was embraced, particularly given the small-scale nature of the study and the methodological parameters I am working within. I attended professional development conferences hosted by Toronto District School Board. I contacted teacher associations, school boards, principals and professors in OISE and provided them with an
overview of my research study and the participant criteria to request them to distribute my information to teachers they believed may fulfill the criteria. I preferred to provide my information rather than ask these individuals/organizations to provide me with the names and contact information of people they think would be suitable. This helped ensure that teachers were volunteering to participate rather than feeling pressure or obligation to participate.

### 3.3.3 Participant Biographies

**Jenny** had worked for Toronto District School Board (TDSB) for 8 years. At the time of the research, her school was located at midtown Toronto. The demographics of the school were mixed, including middle class neighborhood and some immigrant populations. Her school was one of the model schools for inner cities, which was the reason that TDSB provided 20 iPads for Grade 1 students in the school. Before she became a Grade 1 homeroom teacher, she taught special education for 3 years, where she used the Smart Board in teaching and began to be interested in educational technology.

**Gabby** had been teaching in downtown Toronto for 32 years. She had taught kindergarten to Grade 6. Before she became the Grade 1 homeroom teacher, she had been a literacy coach for 8 years, a position that allowed her to further develop her expertise about reading approaches. Even though Gabby’s school was not on the model school list, TDSB still assigned 10 iPads to her Grade 1 class.
3.4 Data Analysis

Data analysis is significant because qualitative researchers learn from analyzing data (Dey, 1993). Creswell (2013) pointed out that the process of data analysis starts with preparing and organizing the data, such as text data as in transcripts, and then reduces the data into themes through condensing the codes, and finally present the data in figures or discussion. The core elements of qualitative analysis are curtailing the data into segments which are named afterwards, grouping the codes into broader themes, and comparing the data in graphs, tables and charts.

For this research study, before I analyzed my data, I was transcribing my interviews. From there I began coding my transcripts using my research questions as an interpretive tool. I coded each transcript individually and identified categories of data and themes within categories. Meanwhile, I was looking at “null data”, which was what participating teachers did not speak to. As a second level, I read the categories and themes beside one another – synthesizing themes where appropriate. A later stage of analysis was the literature review, which was the meaning-making process whereby I spoke to what matters about these themes (findings) given what existing research has already found.

3.5 Ethical Review Procedures

For my research project I followed the ethical review approval procedures allowed by the Masters of Teaching (MT) program. Participants was given letters of consent as part of the interview process (see Appendix A). They read and signed the letters in order to understand the
terms of this process. Interviews were conducted at a time negotiated by both parties, and at a
place of the participant’s choosing. Participants were given all necessary information about
content, consent, and confidentiality. Every effort was made to ensure their comfort and
confirm their willingness to participate in the interview and to have the resulting data included
in this study. All participants were assigned a pseudonym and they were notified of their right
to withdraw from participation in the study at any stage of the research study. In addition,
participants’ identities remained confidential and any identifying markers related to their
schools or students were excluded. There were no known risks to participation in this study.
Participants had the opportunity to review the transcripts and to clarify or retract any statements
before I conducted data analysis. All data (audio recordings) are stored on my password
protected computer/laptop/phone and can only be accessed by me. They will be destroyed after
five years. The expectation of participation was a 45-60 minute semi-structured interview.

3.6 Methodological Limitations and Strengths

I realize the scope of the research is very limited. Given the ethical parameters that we have
approval for, the MTRP can only involve interviews with limited number of teachers, and
consequently it is not possible for me to interview students or parents, or to conduct surveys or to
do any classroom observations. The opinions from the interviewed teachers cannot generalize the
experience of teachers more broadly speaking. I also understand that my research questions are
limited. Given the constraints of time, and the goals of my research, I only carefully selected 17
questions that I felt would help me learn from the study.
However, there are also some strengths of using this qualitative research methodology. Firstly, interviewing teachers can provide more in-depth information than survey could allow for. It creates space for teachers to speak to what matters most to them. Apart from that, the interviews were also an opportunity to reflect on teachers’ practices and how they conceptualize particular topics in theory and practice. Considering that the goal of this research study was to learn how teachers implement iPads in primary-level balanced literacy programs, this research methodology was the most suitable one.

3.7 Conclusion

In this chapter I have described the research methodology by reviewing the general approach, procedures, and data collection instruments, and participant sampling and recruitment. I also have explained data analysis procedures and the ethical considerations relevant to my study. In addition, I have discussed about the methodological limitations and the strengths. All the effort I have put is to explore the findings based on the research purpose and questions. Next, in Chapter 4, I report the research findings in details.
Chapter 4: Research Findings

4.0 Introduction to the chapter

In this chapter I report and discuss my research findings from interviews I conducted with two educators, Jenny and Gabby, who were both Grade 1 teachers and were allocated a set of iPads from Toronto District School Board. Jenny had been the special education teacher before she became the Grade 1 homeroom teacher. She had three years of smart boards experience with students, which brought her interest in integrating iPads into teaching language arts. Gabby had been working for the board for 32 years, and before she started the iPads program, she was a specialist in reading.

There are six themes in my findings. Each theme is presented as a separate header, with the accompanying sub-themes as sub-headers. I will illustrate each theme and sub-theme with the participants’ quotations while relating to the relevant academic research throughout the chapters. I will also explain the value of the findings under each sub-theme. The themes are described in the following order: resources that the participants received; factors that affected teachers implementing iPads in teaching; how teachers used iPads to improve students’ literacy, especially balanced literacy program; the challenges the participants were facing; the solutions they used to solve the issues; and the outcomes of using iPads that they have seen in students’ development.
4.1 Teachers are receiving resources through formal structures, including the school board and professional development opportunities, and less so from informal avenues, such as resource sharing with colleagues.

Implementing iPads in teaching makes teachers worried whether they are capable of using the devices well (Hixon & Buckenmeyer, 2009). Without being provided enough resources and help, teachers might get frustrated by any issues, such as how to lead students to use iPads effectively in learning instead of playing and how to make sure the activities on iPads could be relevant to curriculum (Tierney et al., 2006). Fortunately, the iPads project that my participants were doing was initiated by Toronto District School Board (TDSB), so they were able to attain quite sufficient support from the board. TDSB has provided various resources, such as purchasing the equipment and educational apps and organizing workshops and creating resourceful website. With applications, teachers can upload materials and students’ works online, so parents and students can see and give teachers feedback when they are at home (Delacruz, 2014). In addition to the board’s side, participants sought beneficial resources from the Toronto Public Library and other educational blogs. In contrast, the participants received less assistance from the school and colleagues. The following subthemes will provide more details on the resources that teachers had access to, and why they were or were not able to obtain resources.

4.1.1 Teachers reported receiving resource support from the school board to instruct with iPads for Grade 1 balanced literacy program.

Research shows that school boards have considered to devote their budgets toward “technological resources” (Hixon & Buckenmeyer, 2009). Both of the participants addressed that
TDSB had the initiative to distribute 20 iPads to each model school in order to motivate grade 1 students’ learning and develop their skill set in literacy; therefore, teachers received the most help from the board. TDSB brought up the concept of SAMR model to teachers, which stands for Substitution, Augmentation, Modification, and Redefinition. According to Jenny, the goal of the model is to help students use iPads from “substituting, and then by the time they get to the end of the model, they are using it to creating their own”. In addition to that, TDSB also had put an effort in organizing technology workshops to guide teachers to fully use the functions of iPads. As one of the participants stated “those workshops support[ed] me mostly in the bare bones of using iPads in the classroom.” While the other participant acknowledged that “the things that I learned the most were from other teachers at the workshops.” At these workshops, teachers not only received guidance on using apps and transferring the data from iPads to computers, but they also learned about the advantages and disadvantages experienced by other teachers. Simultaneously, TDSB created a website called “OurSite” to provide resources to support teachers who were allocated iPads in their Grade 1 classroom, and only these nominated teachers could have the account and password to access the resources. Likewise, the board had purchased some educational apps that teachers could use, such as Bookflix and Pebblego.

Teachers commonly have fear of implementing technology into real classes because they are worried they do not have enough knowledge to do that (Hixon & Buckenmeyer, 2009). Participating teachers in my study reported that with solid support from the board, teachers are able to learn how to use new technologies and to network with like-minded teachers to build a
community of support.

4.1.2 Participants were further supported by public resources, such as Toronto Public Library and public educational blogs.

Gabby reported that sometimes, limited budgets became a factor that restricted her integration of iPads. Even though Jenny did not claim this, but both of the participants reported that they gained help from public resources, including the Toronto Public Library and some other educators’ blogs. One participant commented that some educators write on their blogs to introduce useful apps that they have found effective for students’ development in literacy. By reading these information, she was able to choose apps more efficiently. She explained: “I really appreciate finding like a few good blogs that have a few good recommendations. ...I'm gonna use these five apps or these ten apps, so I'm gonna do well.” Other than that, participants also found some online free e-book websites that Toronto Public Library provides, such as tumble books. These also supported their using iPads in literacy. This finding encourages teachers to take the initiatives and explore online information and seek help from public resources.

4.1.3 Participants received less assistance from their own school or colleagues.

The fact that we need to notice is that both Gabby and Jenny were the only Grade 1 teachers who used iPads in their schools, in other words, no other colleagues were using these iPads in their classrooms. The disadvantage of this arrangement is that nobody could discuss with Gabby and Jenny regarding to the professional reflections on using iPads in teaching. Jenny commented that “It's nicer to work with a team with four people using it.” The other drawback of having only
one teacher taking the ownership of the iPads project is that the school did not provide enough assistance for the teacher. In the entire interview, Gabby did not mention any help that she received from her school. Jenny only reported the help from the principal in terms of the time. She acknowledged that the principal left her “quite a bit of release time” to set up the iPads to make sure the devices were ready for lessons, and the principal also gave her “a day at the end of year to clean them (iPads) up, take the kids' photos off, and store them appropriately”. However, there was no more support apart from that. This finding brings three indications for the future projects if they are initiated by the board. First of all, the board should keep a constant communication with the school about their project, so the school could put more effort to support the teacher. Meanwhile, it is worthy to consider having several teachers at each school to implement iPads project, in order to provide teachers the chances to learn from the peers in daily life. Lastly, it is important for Principals to provide more support for teachers, beyond some minimal release time.

4.2 Teachers’ previous educational and life experience in seeing how iPads had motivated students’ learning stimulated their implementing iPads in grade 1 classrooms.

Teachers’ beliefs and previous experience of implementing technology in students’ learning could lead to the success or failure of using the iPads in teaching (Culen & Gasparini, 2011). Before Jenny became the Grade 1 classroom teacher, she had been a special education teacher who used a smart board for three years. She addressed the huge influence that technology brought to a child, “I've seen how much doing activities on the smart board motivated the
students and how they were interested in participating when the lessons involved technology.” Therefore, she regarded integrating TDSB iPads project as an opportunity to bring the technology to the regular classroom. As well as Jenny, Gabby got interested in using iPads and was willing to try it out when the principal introduced this project to her. She believed that most of early learners now are comfortable with technology in the current society. She explained that “we can see an 8 months old playing with their mother’s phones in the strollers.” Thus, teachers’ exposure to positive learning outcomes from technology integration contributed to developing their confidence and positive attitudes toward technology integration.

4.3 Teachers primarily used the iPads for read aloud, guided reading and word study, and less for independent reading and shared reading.

Gabby and Jenny used iPads mainly for read aloud, guided reading and word study, because these are the approaches that are most feasible with iPads and first graders. Researches show that read aloud is very helpful and attainable for early year students, because it allows students to be exposed to the structures of language that they will need in the future and build up a repertoire of text structures and literacy language structures (Fountas and Pinnell, 1996, p.25). Also, read aloud supports young children to connect the pronunciations to picture, so their language systemss are promoted (Adago, 2004). Guided reading is the key reading strategy in Balanced Literacy Program (Fountas & Pinnell, 1996 & 1999). In guided reading, students read leveled books and they have to experience three stages, which are thinking about the text before reading, understanding the content of the text while reading, and culminating what they have learned and
share their relevant opinions after reading. Therefore, it is considered as the most effective pedagogy among Balanced Literacy Program (Fountas & Pinnell, 1996). Both participants claimed that they used some engaging applications to have students practice spelling, so they used iPads for word study frequently. Also, because of the small screen of iPads, participants did not use iPads in shared reading. They also did not use iPads for independent reading because students preferred to read paper books.

4.3.1 Teachers were using E-books, articles and videos to conduct read aloud.

Gabby commented that “Grade 1 students’ listening ability far outreaches their reading ability.” Therefore, she usually created learning centers for students to listen to the books. E-books can improve students’ reading proficiency through the changeable font size, text-to-speech options, and expandable dictionary (Larson, 2010). Some online e-books or articles have audio recordings to read aloud for students, and they are also accessible when students are at home. Technology shortens the road of students’ learning because they may read the digital materials at home (Vollen, 2011). The resources that Gabby usually used were Pebblego, Bookflix and Youtube. Pebblego is free through TDSB account, and so is Bookflix. They carry a lot of videos and texts along with audio recordings in the science area. Students have more interactions with e-books than the traditional texts (Lankshear, 1997). Gabby usually asked students to remember or write down a word that they did not know before to enhance their vocabulary. Before the interview, she told me that she also asked students to write down whatever they learned from those online resources into their journal book to improve reading and
writing ability. Gabby also used video books from YouTube.com. In one lesson, she started an activity which is called “Author Study”. Students were asked to search an American poet “Shel Silverstein”. They listened to the author’s poems recorded in his own voice, which made students really excited. Another time, she found the resources on YouTube.com so students could listen about the role of people in the community.

As well as Gabby, Jenny also used Bookflix for her students to listen to the books and watch the videos or record their own voice on iPads to either imitate reading the story or express their point of view. In addition to this, she also used RAZ Kids for read aloud. There are plenty of leveled books on this website, including the benchmark books for reading level assessment. Another resource that Jenny mentioned is Tumble Books, which is free through Toronto Public Library website if people have a library card. The books usually come with animations.

Online picture books along with the audio recordings create more possibilities for Grade 1 students to read more. There are more e-books than the paper book that teachers or schools can collect. In addition to that, another benefit is that teachers do not have to read aloud for students as there are voices recorded along with the texts. Read aloud provides the most support to early year students as they have little capability to read the words by themselves. Even though one drawback when online e-books replacing teachers to do read aloud for students is that there is no chance for students to interact with the teacher, students can record their comprehension through some applications, such as Book Creator, My Story and Chatter Pix.
4.3.2 Teachers were using iPads for guided reading to improve students’ reading comprehension and expressing their point of view.

Guided reading is the most important aspect in a balanced literacy program, because it is regarded to be the most effective method among the whole program to improve students’ reading skills (Fountas & Pinnell, 1996 & 1999; Holdway, 1989; Mooney, 1990). From the data in interviews, participants indicate that the iPad is a very useful tool to support guided reading. To start with, students can read the leveled e-books on iPads by using the apps or websites that have been mentioned previously. After that, Jenny reported that students used ChatterPix to “take a picture of the character from the story we read and record the point of view”, such as one character’s feelings, or to practice retelling the story. “They would take a picture from the beginning, and the middle and the end, and then put their voice to it.” Jenny recalled. Also, Jenny asked students to assess their own work since their work is recorded and saved on the iPads. Gabby commented that activities on iPads could be a follow-up for guided reading. Both of the participants addressed the importance of improving students’ comprehension in reading. Traditionally, the way teachers assess students’ reading comprehension in guided reading group is through asking questions or doing paper-pencil worksheets, which attracted students’ less interest (Harmon, 2012). However, with the assistance of iPads, students have the chance to do interesting activities to demonstrate their understanding of the materials that they read. It cannot only improve the quality of the guided reading but also motivated students for doing more guided reading with the teacher.
4.3.3 Teachers were using iPads for increasing students’ vocabularies

Research shows that students prefer to participate the vocabulary learning activities that would be most appealing to them (Yang & Dai, 2012). Participants reported that they used the vocabulary apps to reinforce learning, such as Word Wall, Spelling City, and Spelling Bee. Jenny commented that Word Wall is to help students manipulate letters and letter sounds. In Gabby’s classroom, she created a word study center where students can make a word collage and print them out for reinforcement. Then she usually typed these words into the app called Spelling City, so that students could practice spelling at home. She thought that “iPads are kind of replacing the old spelling notebook” and the printing could help students “recognize of the print environment around them”. Both of the participants believed that vocabulary apps could help students who “have a lot of trouble recognizing or remembering letter sounds” to have “visual and auditory and even kinesthetic reinforcement” for kids who are learning letters.

4.3.4 Participants reported that iPads are less frequently used for shared reading and independent reading.

Shared reading requires the teacher to show the reading materials on a big screen, so students can read along with the teacher (Gill, 2006). However, iPads have small screens, so participants found them not very convenient for shared reading. Jenny addressed that “For shared reading...Usually we used books. We put a book under a projector, so they could see it. Or a chant poem or something like that when we were reading together.” Gabby did not have access to a projector, so she was not able to use iPads for shared reading. She addressed that “(shared
reading) shows kids in large format of their own work and other things on the iPads. So I don't have access to that right now.”

In terms of independent reading, Jenny reported that the online E-books could be used for independent reading, but usually the group doing independent reading uses books and the group listening to reading uses the iPads.” Gabby also demonstrated that she had never used iPads for independent reading.

4.3.5 For writing and speaking, teachers noted that they used iPads to principally motivate students through the use of applications, audio and video recorders, and measure students’ writing ability with the function of camera in iPads.

Since Grade 1 students are not capable of writing sophisticated sentences, participants found that iPads were a very supportive tool for students to record their ideas without writing down the words. Also, participants reported that they encouraged students to use the camera to create ideas, such as taking photos and adding captions for that photo. Jenny once asked students to type 5 adjectives to describe themselves along with their own pictures and students were very engaged in this activity. Both of the participants complained about the app called Speech to Text. While students spoke to the iPad, this app transferred the voice into text. But sometimes, there were mistakes of words spelling that Grade 1 students found hard to distinguish, so they did not find this app very helpful for Grade 1 students. Gabby added that another reason that made her not want to use it is that “this software is too complex for Grade 1 students because they have to pre-think what to say.” Gabby let students use the iPads to interview teachers about teaching
responsibilities, and write down the interview content and make a booklet to improve their writing. Educreations is also a recommended application from Jenny to have students practice typing a sentence. She acknowledged that teachers can use iPads to measure students’ progress in writing, “I take a picture of everybody's writing in the first six weeks of school, and then 12 weeks of school, and then the 18th week, and then you could really just look back to four pictures and see how it's been improved.”

When it comes to speaking, participants reported that students used iPads to take a picture and record their voice to make a story or to express their point of view. Gabby brought an example that she asked students to use Lego and play dough sculpture to take photos and add their own voice in ChatterPix.

4.4. Teachers identified a range of challenges that include behavioral, technological, and institutional limitations.

Researches have demonstrated that teachers are concerned about technology causes the disconnection between new literacy and curriculum (Tinerney, Bond & Bresler, 2006). Also, some teachers are hesitated to let students be in charge of using technology in class, because they feel insecure about not participating students’ learning (Nisan-Nelson, 2001). The challenges that my participants reported were mainly about students’ misbehaviors because they were overexcited to use iPads, and the technological issue, such as internet problem and storying material problem. Teachers also encountered institutional limitation. As the only one teacher using iPads in the school, they were responsible to take care of the devices.
4.4.1 Participants reported students have more behavior problems when iPads were involved in the lessons.

Research shows that some very noisy but extremely fun apps could create a very distracting learning environment (Getting & Swainey, 2012). Both of the participants agreed that students have more behavioral problems when the lessons involved with iPads. One of the reasons is that students were very excited about using iPads, because iPads provide visual, audio, and even kinesthetic learning opportunities. Jenny reported that her students were usually “very excited, very into it, a little bit silly, a little bit more behavior sometimes.” Another reason is that students usually regarded iPads as a tool for game and fun; therefore, it was very challenging to transform their mind from playing with iPads to learning with iPads. Jenny also commented that her students probably were allowed to use iPads when their parents were cooking dinner or when they were tired.

4.4.2 Participants reported that internet problems affected their instructions during a lesson and brought them frustration when using iPads connected to the wireless network.

iPads usually function extraordinarily with successful wireless network, but if the internet becomes an issue, teachers and students usually are quite frustrated with spending a lot of time in trying to connect the internet back and forth (Culen & Gasparini, 2011). Jenny reported that “you need to have a successful wireless network in your school which is sometimes not the case.” She also admitted that “getting them (iPads) onto the wireless network is a big challenge.” Gabby commented that sometimes the internet issue influenced her instructions and reduced her confidence in using iPads. She claimed that “it could easily take me forty minutes, based on the
spotty internet of my classroom. So basically by the end of the year, I was really trying not to use
the internet.” She brought a detailed example to explain why she was so frustrated with the
internet issue. When she was doing the guided reading with a group of students, “the kids were
kicked off from their listening website. And I tried to get them back on. And then somebody else
will be kicked off, and then it was time for me to change my guided reading group.”

4.4.3. Participants claimed that taking care of a set of iPads was not an easy thing to do.

When a teacher takes over 10 or 20 iPads, they become totally responsible with these
devices, in other words, the teacher is expected to update them, clean the unimportant data,
install the applications, connect to the internet, and ensure they are fully charged, etc. The
participants explained that they spent a long time setting up all of the iPads, which increased
their extra workload. Jenny explained that “When you are taking care of 20 (iPads), to update 20
IPads can take you an hour and a half, and then you have to plan your lessons for the next day.”
Gabby also pointed out a technological issue within the iPads project was that the iPads laid
dormant, in other words, during the lunchtime, if students stopped using the iPads, some apps or
websites would automatically log students off. So Gabby had to re-log on for students, which
took her rest time during lunch break. Unfortunately, when she called the help desk in TDSB,
they were not able to help her on this issue. Gabby believed that “It took time to ensure the iPads
were back into the carts that the 10 were there, that they were all plugged in that they were
charging.”

One more challenge that Jenny came across was that not all Grade 1 students were able to
operate the device appropriately. Very commonly, students lost their work, which was very disappointing for the students and the teacher. Jenny found “recording or making an electronic portfolio of what they (students) did was very hard. Some kids always lost their things all the time, and then I would never see what they did.” Nisan-Nelson (2001) claimed that one of the reasons that teachers are not very willing to use iPads for teaching is because they feel unsecure to let students be in charge with the iPads and the class. The data of Jenny’s interview shows that she was very struggling with supervising students to save their works on their own. Saving data was a task deemed a bit too difficult for these 6-year-old kids, and it also increased the frustration and confusion of the teacher using iPads. Jenny was questioning whether the goal of using iPads in first graders’ learning was to let them experience the technology or try to save all the work that students completed to prove their progress.

4.5 Participants used various strategies, including rules, modeling, pair work, and reinforcement to overcome the challenges of using iPads in the grade 1 language arts.

Even though research shows that early year learners are totally capable of using iPads independently (Getting & Swainey, 2012), in order to help students understand the instruction of operating the iPad, both participants reported that they used the strategies, including rules, modeling and reinforcement. Before they started the lesson, they discussed with the whole class about the rules of using iPads and wrote them down on a chart paper, so students could remind themselves whenever they see them. After that, the participants modeled how to use the iPad or an app properly. Sometimes, the teacher would ask some students to role play different situations
of using iPads, and then the whole class would discuss about what the right or wrong behaviors were. Jenny commented that students would often need these to be repeated. Gabby recalled that she “teach[es] basic skills in the large group and reinforce them in a small group.” Another strategy that both of the participants were using was to pair up students, especially arranging the experienced student to be a part of the inexperienced student. By doing this, students would not feel worried about using iPads and also, there were some iPads left for emergency use. Gabby suggested the teachers to ask some volunteers to help the class, such as a voluntary parent or a student teacher.

Another strategy that both of the participants used was reminding students to protect iPads carefully. Jenny integrated a “Sign out” process whereby students were not allowed to take out an iPad without signing their name. She explained “all the iPads have a number. They put their names besides that number.” Through this small but necessary step, students could have a better understanding of protecting iPads.

There was some useful experience from one of the participants. In order to solve the saving problem, Jenny asked her students to save in front of her or seek for help from her. Also, she mentioned she was being flexible during the lesson. If the iPads did not work well, she would switch to the whiteboard to write things down. Both of the participants suggested teachers who just started using iPads in teaching to start from little things slowly and simply.
4.6 Participants observed that students were fully motivated by using iPads, however they found it very hard to assess outcomes resulting from students’ use of iPads in learning literacy.

With the use of the iPads, early year students usually stay on task longer (Getting & Swainey, 2012), and cooperate with the teacher more actively (Sandvik et al., 2012). However, scientific studies have not accomplished the outcome of using technology and electronic devices (Culen & Gasparini, 2011; Rhodes & Milby, 2007). What researchers have known is that the apps, e-books, and learning games have been changing the degrees of effectiveness (Balajthy, 2007; Hasselbring & Goin, 2004). My participants also reported that it was very hard to measure the progress that students make, but what was certainly sure was that students were more motivated in learning with iPads compared with the traditional ways of learning.

4.6.1 Participants reported that students were very motivated to integrate iPads in learning literacy.

Many researches have shown that students are more likely to attend activities that are organized by the teacher when using iPads (Larson, 2009; Mckenzie, 2009; Schmar-Dobler, 2003; Glasgow, 1996). When it comes to the outcome of the iPads project in TDSB, both of the participants reported that they had observed students’ enthusiasm and motivation in using iPads in learning. Jenny was very sure about students’ attitude: “They love it. Because they think it was so funny. You know making the characters talk and...a lot of laughing.” She also relayed an example whereby her students were not very excited to think of a list of 5 adjectives to describe themselves until they knew they were putting on the pictures on the iPads. Gabby pointed out that “the motivation of the technology is fantastic.” Some of her students who were not willing to take word spelling practices were motivated to practice on Spelling City because Gabby
individualized the spelling list for them, and practicing with spelling games was more exciting than practice with paper and pencil. Participants also reported that students’ parents were excited to see their child using iPads to improve learning, and they were happy to see photos of their children learning that teachers would take using the Ipads and send them.

4.6.2 Participants found it difficult to assess student progress in their literacy learning through Ipads because of no control group and limited time.

Both of the participants claimed that iPads had stimulated students in improving their reading proficiency, however they reported that it was very hard to assess how much progress that iPads had brought to the students. Jenny addressed that one year was too short for the assessment. Because her students had difficulty in saving their works onto the iPads, she was not able to assess their progress. Gabby stated that “it is hard to say because I don't have a control group.” Researches also show that scientific studies have not assessed the outcome of using technological devices in learning (Culen & Gasparini, 2011; Rhodes & Milby, 2007). More importantly, TDSB has set a goal for all students to reach a minimum Developmental Reading Assessment (DRA) level of 16 by the end of grade 1(TDSB, 2014), but none of the participants mentioned about testing students’ DRA level as their way of assessment.

4.7 Conclusion

This research finds that the Toronto District School Board has provided the most support to Grade 1 teachers who are in the iPads project, which connects to the literature that Hixon and Buckenmeyer (2009) indicated that some school boards have started to invest a considerable
proportion of their budgets to integrate technology into education. Another key finding is that teachers found that iPads motivated students to learn literacy, especially through read aloud, guided reading and word study. A few existing researches also display that iPads help students focus on task longer and more possibly engage students in learning than using paper and pencil materials (Getting & Swainey, 2012; Sandvik et al., 2012). In addition, this research also finds that the assessment of students using iPads was very hard to be conducted. The literature also demonstrates that scientific studies have not achieved the results on the effect of technology and electronic device (Culen & Gasparini, 2011; Rhodes & Milbly 2007). Culen and Gasparini (2011) also reported that one of the key factors that lead to the success or failure of integrating the iPads project was the core value of teachers. One of the significant findings from this research is that teachers’ previous educational experience and life in seeing how iPads had motivated students’ learning could impact their implementing iPads in teaching.

The findings presented in this chapter will be further discussed and their significance elucidated in the following chapter as they are put into conversation with the existing literature.
Chapter 5: Implications

5.0 Introduction to the chapter

This research aimed to learn from grade 1 teachers who are using iPads in balanced literacy program, such as *read aloud, guided reading, shared reading, independent reading,* and *word study* to promote grade 1 students’ literacy. Both the literature review and my findings suggest that there are a number of useful educational applications designed for students’ learning in literacy, and demonstrates how iPads enhance students’ motivation in learning. My research also reports who provides support and resources to teachers, and how teachers use iPads in literacy. Finally, it addresses the challenges teachers faced and the solutions that teachers used to solve the problems.

In this chapter I discuss the research findings and how this research has contributed to the current existing research. Next, I articulate the implications for the educational research community and myself as a researcher and future classroom teacher. After that, I talk about the recommendations based on what I learned for faculties of education, school boards, schools and teachers. Finally, I address areas for future research in the realm of using iPads in other areas, such as math, second language learning, and special education.

5.1 Overview of Research Findings and Their Significance

The data from my interviews reveal that TDSB has provided the most support to Grade 1 teachers who are in the iPads project, and teachers also explored other resources from Toronto
Public Library and some public educational blogs, but they received less support from their home schools or colleagues. More specifically, TDSB not only assigned 20 iPads to model schools and 10 iPads to other schools on the list and one MacBook for each teacher, but also created a website called “Our Site” for the iPads project. As well as that, TDSB organized iPads workshops to guide teachers to use applications, which the participants reported as one of the most useful resources as teachers learn from each other and discuss about difficulties and strategies together. Simultaneously, TDSB purchased educational resources for teachers and students to use. Hixon and Buckenmeyer (2009) indicated that some school boards have started to invest a considerable proportion of their budgets to integrate technology into education. At the same time, participants reported that the resources from Toronto Public Library were mainly e-books and some educators’ blogs helped teachers to filter the effective applications, which saved their time from trying out every application by themselves.

Another finding from this research is that teachers’ previous educational and life experience in seeing how iPads had motivated students’ learning stimulated their attitudes toward using iPads in teaching. Culen and Gasparini (2011) also reported that one of the key factors that lead to the success or failure of integrating the iPads project was the core value of teachers. Both of my participants noted that in their educational and life experience, they observed how early years learners were passionate about using electronic devices in learning. Besides, the participants also addressed that in the current society, children started to be familiar with tablets, smart phones
and iPads since very young, so they had enough confidence in these children to operate iPads better than what adults could expect.

The interview data also show that teachers used e-books from Pebblego, Bookflix, Tumble Books and Raz Kids for read aloud. E-books can improve students’ reading proficiency through the changeable font size, text-to-speech options, and expandable dictionary (Larson, 2010). These resources provide abundance of videos, audios and texts for students to listen and read. Guided reading has been considered as the most effective pedagogy among balanced literacy program. Students have to experience thinking about the text before reading, understanding the content of the text while reading, and culminating what they have learned and share the relevant opinions after reading (Fountas & Pinnell, 1996). The participants addressed that they used cameras and applications like ChatterPix to assist students to retell the stories and record their point of view for guided reading. Students were usually suggested to take a picture from the beginning, the middle and the end of the story to practice retelling the story. Sometimes, they took a picture of the character and recorded their opinions with the picture and then the teacher would share everybody’s work in class. As for word study, the participants used Spelling City and Word Wall to engage students for words practice through games. Independent reading allows students to choose the reading materials, read them on their own and read in a flexible time. It is usually the last stage in balanced literacy program(Moss & Young, 2010). From interview data, teachers reported that they used iPads less for shared reading or independent reading, because the screen of iPads is not big enough for shared reading and students preferred to read paper books
for independent reading rather than e-books on iPads. Finally, the participants reported using camera and voice recorder to motivate students to speak and do brainstorm for writing.

During the implementation of iPads in class, participants experienced a range of challenges. Tinery, Bond & Bresler (2006) found that some teachers worry about iPdas causing disconnection between new literacy and curriculum. One of the most common issues that would affect teachers to complete the curriculum was students’ behavioral problems. Students were often overexcited about using iPads at school. Other issues such as internet problem, limited time issue for clearing up the spaces for iPads, and saving students work and charging iPad every day also impeded integrating iPads successfully. In order to solve these problems, participants used various strategies, including setting rules with students, modeling and role-play about how to use the functions of the iPads and how to protect the devices carefully, pair up experienced students and inexperienced students, and reinforcement in small groups. However, teachers felt hard to solve the internet issue by themselves. In addition to that, teachers claimed that taking care of iPads brought them a lot of extra work.

A few existing researches also display that iPads help students focus on task longer and more possibly engage students in learning than using paper and pencil materials (Getting & Swaine, 2012; Sandvik et al., 2012). However, scientific studies have not achieved the results on the effect of technology and electronic device (Culen & Gasparini, 2011; Rhodes & Milbly 2007). In this research, participants also demonstrated that students were fully motivated by using iPads, however they found very hard to assess the outcome of students using iPads to improve reading
proficiency and they did not receive either positive or negative feedback from parents because students did not mention about using iPads at school.

5.2 Implications

In this section I speak to the broader implication that affect school boards and schools as well as the specific implications for teachers, parents, students and myself as a future teacher.

5.2.1 School Boards

My research found that the Toronto District School Board (TDSB) supports teachers in their efforts to implement iPads into literacy, which helps to make the project run effectively. This indicates that it is possible for boards to take a lead in the endeavor to integrate technology to support students’ learning. However, apart from providing the devices, workshops and resources, there are other areas that boards need to put more effort into. One of the very important pieces is to observe how teachers are using iPads in their classes. Without in-class observations and one-on-one interviews, the boards do not understand the real challenges and needs of the teachers. These challenges, according to my participants, include collaborating with colleagues, behavioural considerations, and reliable access to high speed internet.

Another area that boards need to consider is to track the process of how teachers use iPads in teaching and provide them with tools/preparation in the area of tracking student progress in literacy learning. Teachers reported that it is very hard to assess students’ learning progress through the use of using iPads, because they did not have another group of students to compare
students with. Also, one participant claimed that 1 year was too short to assess students’ progress of using iPads to improve reading proficiency. Therefore, it is important that school boards consider extending such initiatives to run over a longer period of time. In short, assessing students’ progress is very important. The formal data could speak to the importance of using iPads and the strengths and weakness of teachers’ implementation.

This research also found that teachers were overwhelmed with taking care of all the iPads and were receiving less support from their schools and colleagues. I recommend the boards to include several teachers per school to participate in the project so that they can support one another. Therefore, teachers will have colleagues using iPads together and support each other as well as spending less time on connecting iPads to the Internet, installing the applications, cleaning the storage and charging iPads every day. Also, boards need to consider the importance of schools and the principals in the iPads project. With the sufficient support from the school, teachers will be more encouraged to implement the iPads as well as possible.

In terms of the content of the iPad workshops, in addition to training teachers how to use iPads and applications, the technological specialists need to train teachers how to accommodate for students who have special education needs, such as ELL students and students with ADHD and autism. In order to create an inclusive classroom, providing differentiated instructions on using iPads is necessary. Also, according to the interview data, teachers less frequently identified writing applications as they did reading applications, but reading and writing are equally important for students.
In addition, there are some very important technological problems that are urgent for the boards to solve. First of all, the boards need to provide high quality Internet service. The inconsistent Internet access frustrates teachers and hinders students’ passion and confidence in implementing iPads into teaching and learning. In addition, the boards ought to improve the professional knowledge and capabilities that the Help Desk workers have because when teachers call the Help Desk, they really need support. It will not only help teachers to implement iPads better, but also make them feel secure that the board is there to support them in this work.

Lastly, TDSB has set a goal on their official website, which is that by the end of Grade 1, students in the iPads project will pass at least the DRA level 16. However, the interview data show that teachers did not mention this goal, or improvements, at all. I recommend the board more clearly communicate this goal to teachers and/or investigate the reasons why there is no such assessment at the end of the Grade 1.

5.2.2 Schools

Research shows that some teachers still need to be convinced of the value of integrating technology to support the curriculum (Ontario Ministry of Education, 2012). Teachers feel embarrassed when they come across challenges in implementing technology (Hixon & Buckenmeyer, 2009). Interview data show that participants lacked support from the school and peers for the iPads project. In order to encourage teachers to feel more confident in using iPads to improve students’ reading proficiency, the school should think of more ways to support them. Apart from providing these teachers extra time to set up or clear up the devices, the principals
can inquire into the needs and challenges that these teachers encounter and be great coordinators between the boards and the teachers. Also, participants addressed that the limited budget for buying resources for the iPads project restrained teachers’ implementation. Schools can consider offering the teachers reasonable extra budget. Lastly, schools can organize technology forums to gather different teachers’ ideas on using iPads to develop students’ reading capability.

5.2.3 Teachers

According to the literature review and the research findings on how the early year students use iPads for learning, Grade 1 students are capable of operating iPads on their own, and their motivation is greatly increased when they are learning with iPads (Getting & Swainey, 2012). Therefore, teachers should have solid confidence that iPads can be given to Grade 1 students for learning. Also, teachers should not be worried about lacking support because the boards or schools can offer equipment, resources, and training.

Teachers also need to understand that the role of iPads in some students’ perception is a tool for entertainment. The participants pointed out that it was hard for students to switch their mind from playing with iPads to learning with iPads, because their parents possibly used iPads to make students occupied when they were cooking or busy. Therefore, teachers can address the learning goal of using iPads in class, create the rules for using iPads with students, and reinforce students’ different uses of iPads.
In order to enhance the classroom management while using iPads in class, teachers ought to create classroom rules with students and address their importance frequently. Other strategies could be having students role play to demonstrate the rules and to model how to use iPads, and having students sign up whenever they need to use the iPads. This can help ensure that students can use the iPads to achieve the expectation of the curriculum.

While using online e-books, including Bookflix, Pebblego and Tumble Books for read aloud, I recommend teachers to encourage students to record their point of view through applications, such as ChatterPix. Students do not have interactions with teachers if they read the e-books by themselves, so in order to know students’ opinions and feelings, teachers should think of ways to understand students about the books that they read.

5.2.4 Teacher Candidates

The interview data show that the teachers who have more experience in using technology have more confidence and interest in implementing the iPads in teaching, thus it would be beneficial for teacher candidates to observe exemplary teachers integrating technology or experience using technology in teaching when they have the chance.

5.2.5 Parents

According to the research findings, Grade 1 children were having difficulty in transforming the view from seeing iPads as a tool for play to study. Therefore, parents could reinforce their
children’s different use of iPads. For example, parents can compliment children when they are playing educational games or applications with iPads.

5.3 Recommendations

In order to provide teachers more support and preparations in terms of integrating iPads in teaching, changes will need to be made at the levels of teacher training, school boards, schools, and classroom teacher practices. It is important to note that supporting policies are already in place and the task at hand is to reduce the gap between policy and practice.

5.3.1 Faculties of Education and Pre-Service Programs

◆ Introductions of educational applications, such as Pebblego, Nearpod, Bookflix, ChatterPix and pedagogies on how to implement iPads in teaching should be included in pre-service training courses.

◆ Research on how to assess students’ progress while using iPads in learning should be more emphasized as teachers often find difficulty in the practice.

◆ Accommodations in using iPads for students who have special needs should be implemented in pre-service training courses. For example, how to assist a student with ADHD to focus on the task with the iPad and how to support a student with autism collaborate with his/her partner to operate iPads.

◆ Providing teacher candidates with opportunities to observe exemplary teachers integrate
technology as this enhances teachers’ confidence and positive attitudes.

5.3.2 School Boards

- Including several teachers per school to participate in the project so that teachers can support one another and can discuss using iPads to improve students’ literacy and take the responsibility of looking after the iPads together.

- Technological experts should go to the classrooms to observe how teachers are implementing iPads to improve students’ literacy and have one-on-one interviews with teachers to deeply understand teachers’ thoughts and needs. Teachers have very valuable feedback that can help improve initiatives like the iPads project and truly benefit students.

- Instead of only setting a rough goal of using iPads to ensure every first grader will get at least the Developmental Reading Assessment (DRA) level 16, the boards need to track the process of how teachers use iPads in teaching literacy and provide them with the tools/preparation to assess students’ learning before/while/after using iPads for study. There are some suggestions for the assessment. For example, increase the length of assessment from 1 year to 2 years, which means let Grade 1 students start to use iPads but assess their outcome in Grade 2. However, setting up a control group as well as the experiment group is hard to be carried out for not every school has two classes in the same grade.
◆ Workshops also should train the teachers to accommodate for students who have special education needs, such as ELL students and students who have ADHD, autism, and dyslexia, and etc.

◆ More writing applications should be purchased because according to teachers’ report, they have more reading apps and resources than those for supporting writing.

◆ Working together with the schools and principals on how to offer more support to teachers who are in the iPads projects.

◆ Provide high quality Internet service and solve the problem that when the iPads lay dormant, students need to re-log into some websites. Also, it is necessary to improve the professional skills of the Help Desk, so when teachers contact the Help Desk to ask for support, they could get at least some help.

5.3.3 Schools

◆ Care about the process and challenges that teachers face when implementing iPads in teaching, and provide extra resources and previous successful experience, if any, to support teachers.

◆ Creating staff-wide discussions in the realm of using iPads to promote students’ literacy.

◆ Offering more budgets for teachers who are in iPads project because they need to spend more capital on purchasing online resources.
◆ Providing ongoing professional development opportunities for teachers in the realm of implementing technology to support students’ reading proficiency.

◆ Arranging volunteers to support teachers who need to upload all the applications and clean the devices for enough storage space.

5.3.4 Teachers

◆ Having solid belief in Grade 1 students and their capacity to use iPads. They are capable of using iPads and research has found that students were highly motivated by integrating iPads in learning (Getting & Swainey, 2012).

◆ Knowing that students might treat iPads as a tool for play rather than study. Address the learning goal of using iPads in class, and set strict rules with students and modeling students on how to protect iPads well. Invite students to participate in writing down the rules on a chart paper. Ask students to role play appropriate behavior and the inappropriate behavior. Reinforce the good behaviors in small groups and throughout the year.

◆ Start from small and simple steps, for example, starting from asking students to open a website and listen to and read the E-books. After a while, the teacher can encourage students to take a picture and use apps to add their point of view when they finish reading.

◆ Pair students up to use iPads. Some Grade 1 students have experience in using iPads at
home, so they could be the partners of the students who have less experience. Another benefit of this arrangement is the teacher could have some iPads as backups if students need to switch their devices.

◆ Teachers should take their initiatives to explore the public free resources as well as taking the full advantage of the existing resources that are provided by the board and school.

◆ The resources for E-books are Pebblego, Bookflix, Tumble books and Raz kids. On Youtube, some teachers have recorded their voice for reading aloud the books.

◆ The common-used app for students to express their point of view or to retell the stories is ChatterPix. The apps for word study are Spelling City or Word Wall.

◆ Prepare a “sign out” paper aside of the iPads cart so that students have the sense of responsibility to take care of the iPad.

◆ Invite parents or others to be volunteers in your classroom.

◆ Use iPads as a communication tool between the teacher and parents. Offer parents resources that their children can use at home for educational purpose with iPads, thus gradually students can transfer their mind from regarding the iPdas as a tool for play to as a tool for study. Upload students’ works online so parents can participate in students’ learning.

◆ iPads could be used not only in language arts, but also in other subjects, such as math,
science and art.

5.4 Areas for further research

Research has shown that teachers are not commonly confident using technology in teaching (Hixon & Buckenmeyer, 2009; Tierney et al., 2006; Lynch & Redpath, 2014). This research has found who/how to support teachers to implement iPads to increase teachers’ confidence and belief in using iPads. Therefore, future research could focus on how to develop teachers’ professional skills and knowledge in using technology in teaching.

Another area for future research should be about how to save students’ works and assess students’ progress to finally set an appropriate goal for students’ learning with the support of iPads. In this research, participants described the issues that first graders were not skilful enough to save their works, and one year was too short for assessing the progress that students made after they used iPads to support learning. So future research could explore how to develop early year students’ skills in using iPads, especially with saving documents and works, and what effective assessments could be used, which will lead to making an appropriate goal for students’ learning with iPads.

Moreover, in this research, participants did not mention any accommodations of using iPads for students who have special education needs (SEN). But the literature indicates that iPads can help students stay on task longer than usual (Getting & Swaine, 2012), therefore the future
research could study how iPads can support students with special needs (i.e. ADHD & LD) to improve their literacy skills.

Lastly, this research found that iPads used more often in read aloud, guided reading and word study, but not in shared reading and independent reading, so further research could explore how iPads are used in read aloud, guided reading or word study. I believe these future research findings will be very beneficial for students’ reading proficiency.

5.5 Conclusion

This research has explored how teachers were doing iPads project in balanced literacy program to develop students’ reading proficiency, what challenges they were experiencing during the implementation, and the outcome that they have observed of students. The findings from this research could firstly be beneficial to teachers, who plan to use iPads to balanced literacy program to improve students’ reading proficiency. By reading this paper, they will learn that iPads could be used more successfully in read aloud, guided reading, and word study rather than shared reading and independent reading. They will also know the challenges and strategies to overcome the problems during implementing iPads project in teaching. The findings and implications of this research will help school boards, schools and researchers to learn teachers’ needs and challenges in using iPads to motivate students in reading as well as the recommendations to improve the existing iPads projects. Most importantly, this research will benefit early year students, who need guidance in using iPads in learning. Students’ success and development are the ultimate goal of this research.
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doi:10.1177/1468798412453150


Appendices

Appendix A: Letter of Consent for Interview

[Logo]

Date: ____________________

Dear ____________________,

I am a graduate student at OISE, University of Toronto, and am currently enrolled as a Master of Teaching candidate. I am studying “Exploring the Use of Ipads in Balanced Literacy Program in Grade 1 Classrooms in TDSB” for the purposes of investigating an educational topic as a major assignment for our program. 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. Angela MacDonald-Vemic. 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 40 minute interview that will be audio recorded. I would be grateful if you would allow me to interview you at a place and time convenient to you.

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.

Sincerely,

Researcher name: Jiajia Lou

Phone number: 647-867-0247

e-mail: jiajia.lou@mail.utoronto.ca

Instructor’s Name: Dr. Angela MacDonald

Phone number: 416-821-6496

Email: angela.macdonald@utoronto.ca

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 Jenny Isaacs and agree to participate in an interview for
the purposes described. I agree to have the interview audio-recorded.

Signature: ____________________________________________

Name: (printed) _______________________________________

Date: _______________________________________________
Thank you for agreeing to participate in this research. This study aims to learn how teachers use IPads in their balanced literacy programs and what outcomes they observe for reading proficiency. The interview should take no longer than an hour and the questions are broken down into 4 categories, including your background, your beliefs, the practice of using Ipads in balanced literacy programs, and the barriers during practice. Please do not hesitate to tell me if you are not comfortable answering any of the following questions or if they are not relevant to you; we will move on to the following question. I would like to remind you that your responses will not be evaluated, and your name and personal information will not be included in this study.

As the consent form that you signed, I will be audio-recording this interview through the use of a digital recorder. If you would like me to turn off the recorder at any time, please feel free to let me know. Do you have any questions before we begin?

Section A: Background

1. How many years have you worked as a teacher? How many years have you taught language arts?

2. What grades and subjects do you teach? What grades and subjects have you previously taught?

3. What is your educational background? What did you study in your undergraduate degree? Do you have any additional degrees or certifications? Have you completed any additional
qualification courses pertinent to the topic of using IPads for literacy instruction (e.g. technology integration; or the literacy AQ)?

4. Can you describe the community in which your school is situated (i.e. size, demographics, diversity, and socioeconomic status)?

5. As you are aware, I am interested in learning how teachers use Ipads to foster literacy and you are here today because this is something you do. Can you tell me more about how you became interested in using IPads for literacy instruction? What personal, professional, and/or educational experiences did you have that informed your interest and commitment to this area?

Section B: Teacher Beliefs, Understandings, and Perspectives

6. How did you come to be involved in this program? Did you volunteer to be in this program or it was the arrangement from the principal? What do you think about the program and how it is being implemented?

7. How does your use if the Ipads align with the intentions of the program?

8. In your view, what role does/should technology have in education? What role does/should it have for literacy pedagogy? Why?

9. From your perspective, compared with not using Ipads in balanced literacy program in your earlier years of teaching, what are the benefits and limitations of using Ipads in balanced literacy program?

10. Before I ask you more about how you use IPads in literacy instruction, can you tell me more about your literacy program? *can probe re: what balanced literacy means to them as well, but listen first to see how they respond to the question and see whether they raise the notion of balanced literacy.

11. In your view, what are some core components of a balanced literacy program?
Section C: Teacher Practices

12. Generally speaking, how do you use iPads in your literacy program? (probe re: read aloud, guided reading, shared reading, and independent reading)?
   i. How do your students generally respond to your use of iPads?
   ii. Typically, do students themselves interact directly with the iPads or are you the one interacting with it?
   iii. If you do have students interact directly with the iPads, how do you prepare them to use these? What is your rationale for having them interact directly with them (or not)?

13. More specifically, can you give me an example of a lesson that you have conducted with your grade 1 students using iPads to foster literacy?
   i. What were your learning goals?
   ii. What opportunities for learning did you create?
   iii. How were the IPads used in the lesson?
   iv. How did your students respond to this lesson? What outcomes did you observe from them? Probe re: reading comprehension etc.

14. What factors and resources support your capacity to use IPads as a component of your literacy program?

Section D: Barriers/Next Steps

15. What challenges have you encountered integrating iPads into your literacy instruction? How have you responded to these challenges? What would further support you in carrying out this work?

16. What are your goals for the development of this program?
17. What, if any, advice do you have for beginning teachers who are committed to technology integration into literacy programs in elementary education?

Thank you for your time and participation.