

Students' Use and Perceptions of Social Networking Technologies: Connections
to Reading, Reading Ability, and Self-Perception

Sarah Bishop, B.A., B. Ed.

Department of Graduate and Undergraduate

Studies in Education

Submitted in partial fulfillment

of the requirements for the degree of

Masters of Education

Faculty of Education, Brock University

St. Catharines, Ontario

© Sarah Bishop 2013

Abstract

This study was undertaken to examine traditional forms of literacy and the newest form of literacy: technology. Students who have trouble reading traditional forms of literacy tend to have lower self-esteem. This research intended to explore if students with reading difficulties and, therefore, lower self-esteem, could use Social Networking Technologies including text messaging, Facebook, email, blogging, MySpace, or Twitter to help improve their self-esteem, in a field where spelling mistakes and grammatical errors are commonplace, if not encouraged. A collective case study was undertaken based on surveys, individual interviews, and gathered documents from 3 students 9-13 years old. The data collected in this study were analyzed and interpreted using qualitative methods. These cases were individually examined for themes, which were then analyzed across the cases to examine points of convergence and divergence in the data. The research found that students with reading difficulties do not necessarily have poor self-esteem, as prior research has suggested (Carr, Borkowski, & Maxwell, 1991; Feiler, & Logan, 2007; Meece, Wigfield, & Eccles, 1990; Pintirch & DeGroot, 1990; Pintrich & Garcia, 1991). All of the participants who had reading difficulties, were found both through interviews and the CFSEI-3 self-esteem test (Battle, 2002) to have average self-esteem, although their parents all stated that their child felt poorly about their academic abilities. The research also found that using Social Networking Technologies helped improve the self-esteem of the majority of the participants both socially and academically.

Acknowledgments

I would like to thank the participants of this study and their mothers for sharing so openly and generously with me. Without their cooperation, this study would not have been possible. I enjoyed listening to their perspectives, learning, and gaining fresh understanding.

Thank you to my advisor, Dr. Vera Woloshyn, for her guidance and support. I am grateful for her patience with my work and research over 3 years, in which time I was completing my B.Ed., getting married, and having baby Remington while pursuing this research. I would also like to thank Dr. Sandra Bosacki for agreeing to work as my second reader on this project. Lynn Duhaime and Lori Walker, thank you for your friendly support.

Thanks to my good friends Kirsten, Jackie, and Madelyn for always being a sounding board and reminding me of what is important in life. Madelyn, a special thanks to you, I am so grateful for your help, guidance, and encouragement in this work, reminding me I could do it. As busy as you were, to always, at a drop of a hat, lend your guidance, or bring a coffee.

I would very much like to thank my parents, Tom and Jan, for their unconditional love, guidance, support, and always believing in me. Without mom (and her willingness to babysit at a moment's notice) this work may not have been completed. I love you both more than I can ever express.

Finally, thank you to my terrific husband, Mark, for his love, support, and encouragement. I cannot wait to spend more time with you now, no more late research

nights! To awesome Remington, thank you for timing many of your naps so mommy could work.

Table of Contents

	Page
Abstract	ii
Acknowledgements	iii
CHAPTER ONE: THE PROBLEM	1
Background of the Problem	1
Purpose of the Study	3
Rationale	4
Scope and Limitations of the Study	6
Outline of Remainder of the Document	7
CHAPTER TWO: CRITICAL REVIEW OF RELATED LITERATURE	8
What are Social Networking Technologies?	9
Technology is Here to Stay	10
Educational Relevance of Social Networking Technologies in Schools	15
Social Networking Technologies as Motivational Tool	18
Social Networking Technologies are Advantageous for All Students	20
Differentiated Instruction (DI) Through Social Networking Technologies	22
Reading Difficulties and the Consequences	23
Reading Difficulties and Academic Performance	27
Self-Perception and Academics	28
Reading Difficulties, Self-Esteem and the Perception of Self	29
Self-Esteem as Measurable	32
Promoting a Different Sense of Self through Social Networking Technologies	33
Purpose of the Study	34
CHAPTER THREE: METHODOLOGY AND PROCEDURES	36
Overview	36
Methodology	37
Data Collection	38
Participant Recruitment	43
Data Analysis Technique	46
Establishing Credibility	48
Ethical Consideration	48
CHAPTER FOUR: PRESENTATION OF RESULTS	51
Interpretation of Findings:	51
Cross Case Comparison	80

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS	89
Methodological Summary	89
Results of Findings	90
Discussion	91
Implications for Practice	98
Implications for Theory	99
Limitations	100
Conclusion	101
 References	 102
 Appendix A: Semi-Structured Interview Guide	 114
Appendix B: Parent Questionnaire	119
Appendix C: Student Questionnaire	124
Appendix D: Technology Log	128
Appendix E: Final/Exit Interview Guide	132

CHAPTER ONE: THE PROBLEM

This was a study of students' use and perceptions of Social Networking Technologies (SNTs) and their connection to reading, reading ability, and self-perception. The study began with my interest in literacy and growing understanding of the increasing role that technology has on, and will continue to play in, students' lives, as one of the evolving new literacies (Leu, Mallette, Karcher, & Kara-Soteriou, 2005; Withrow, 2004).

Having witnessed students identify peers who they considered to be weaker readers, I wondered if SNTs could be a mediating factor in helping these struggling students feel equal to their peers. Specifically, I wondered whether these technologies could help these struggling readers regain their self-esteem among their peers. I became curious whether SNTs, including text messaging, Facebook, email, blogging, MySpace, or Twitter could potentially help bolster these students' self-esteem, by creating an "even playing field" among their peers as it is commonly accepted to communicate with spelling and grammatical errors as well as abbreviations or acronyms when using SNTs. In other words, I questioned whether using such technology to communicate with others encouraged students who struggle with traditional print-based forms of reading and writing to feel better about themselves?

Background of the Problem

A Statistics Canada (2010b) report indicated that, "life path outcomes are associated with reading ability." The study stated that young people who were not proficient readers by 15 years of age, had lower levels of educational attainment and income by the time they were 25 years old, as compared to their peers who demonstrated

high levels of reading proficiency. Those with low scores in reading were more likely to have ended their education with high school completion or less (Statistics Canada, 2010b). Success in literacy is linked to success in academics, income, and self-perception.

Students with reading difficulties (RDs) tend to have lower self-esteem and perceptions of self (Harter & Pike, 1984; Shaywitz, 2003). Low self-perceptions of ability and feelings of relative ineffectiveness in learning are associated with low expectations for future achievement outcomes (Chapman, 1988; Chapman & Boersma, 1980; Rogers & Saklofske, 1985). Students with reading difficulties tend to have low self-esteem, and tend to end their education earlier, thus lowering their chances for future academic and financial success (Harter & Pike, 1984; Statistics Canada, 2010b). Therefore, it is important to explore whether using SNTs may improve these students' perceived self-esteem.

While students often can identify peers with reading difficulties, it is important to examine ways in which students with reading difficulties can improve their self-perception and feel academically successful and socially accepted. It is possible that in the world of SNTs, where spelling and grammar mistakes are commonplace and even encouraged, a student who struggles in traditional print forms of literacy could gain greater confidence in his/her reading and writing abilities. The question arises whether using SNTs can improve the self-esteem of students who typically struggle with traditional forms of print literacy.

Purpose of the Study

The purpose of this study was to understand better the connection students with reading difficulties have between their perceptions of self, reading and reading ability, and what role SNTs can play, if any, in bolstering their self-esteem. This study has the potential to better understand students' self-perception, as well as their use and perception of SNTs.

Researchers have documented that students with reading difficulties or learning disabilities tend to have lower perceptions of themselves than their peers and, similarly, that they are viewed less favourably by their peers as well (Kuhn & Wiener, 2000; Stiliadis & Wiener, 1989). Through this research, we may gather evidence about whether children's use of SNTs could positively influence their self-esteem. This research may also help the educational community by expanding the limited knowledge available about students with reading difficulties and their perceptions of self and/or their use of SNTs. The findings of this study are anticipated to facilitate future studies, including comparison studies involving the usage of such technologies between students with reading difficulties, and students without. Measures of self-esteem, self-concept, and social acceptance would be central to such future studies.

While researchers have studies on how students can use Assistive Technology effectively in the classroom (Duhaney & Duhaney, 2000; Judge, 2006; Puckett, 2004), there seems to be a gap in the literature identifying how students with reading difficulties use SNTs. Questions arise as to whether students with reading difficulties use SNTs more or less than their peers. Do they believe that they are able to use this form of literacy as well as their peers? Do they believe that they are accepted socially more by their peers

when they use these technologies? How does the ability (or lack of ability) to navigate SNTs affect their self-esteem? The primary purpose of the study was to explore the experiences of students with reading difficulties with respect to using SNTs, in addition to exploring students' perceptions of reading and of self while using these technologies. The overarching question of this study was to examine if the use of SNTs can help promote a student's positive perception of self.

Rationale

Research (Burka, 2004; Durlak, 1995; Gregory & Williams, 2004; Hemphill, & Tivnan, 2008; Statistics Canada, 2010a) suggests that the presence of early academic troubles can be a predictor of later challenges including behavioural and social difficulties, special education placement, and school dropout. Therefore, it is essential to explore how to improve the self-esteem of students with reading difficulties who traditionally experience lower self-esteem (Carr, Borkowski, & Maxwell, 1991; Feiler & Logan, 2007; Meece, Wigfield, & Eccles, 1990; Pintirch & DeGroot, 1990; Pintrich & Garcia, 1991). Understanding the connections between students with reading difficulties, their self-esteem, and the role of SNTs in shaping these perceptions may be important in helping stop the negative consequences that can result from academic struggles.

Research finds that the current generation of young people is the first cohort of "digital natives" who write and even think in this alternate format, such as text messaging (Hawk, Rieder, & Oviedo, 2008; Turner, 2009). This language has become part of their primary language into the more formal language of school and society (Turner, 2009). The majority of young people are technologically savvy. Plester, Wood, and Bell (2008) reported that in 2006, nearly half of 8- to 11-year-olds had access to a cell phone as did

82% of 12- to 15-year-olds. A study by The Nielsen Company(2009) found that more than 80% of Americans had computers in their household and, of those, almost 92% had internet access. According to Statistics Canada (2010a), 8 out of 10 Canadian households had access to the internet. Among young Canadians between the ages of 18-34 years, 86% have a social networking profile (IPSOS, 2011). An American national survey by the Kaiser Family Foundation (2010) found that technology dominates the lives of 8- to 18-year-olds, with this group spending on average of 7-1/2 hours a day on entertainment media.

It is clear that young people are using technology frequently and socially (Hawk et al, 2008; Nikirk, 2009; Plester et al., 2008; Text Messaging Centre, 2009, Turner, 2009), making the question of whether students with reading difficulties can use SNTs to connect on a “more equal level” with their peers relevant. Perhaps these students could be perceived as equals when using a medium of communication where spelling mistakes and grammatical errors are viewed as normative. That is, using SNTs may take away some or all stigma attached to students who typically are perceived as “less than” because they may have lower literacy abilities.

This study shows that students who use SNTs do, in fact, feel better about themselves, socially, emotionally and, in some cases, academically. Contrary to published literature, this research also found that students with reading difficulties do not have lower self-esteem than average as measured by the Culture Free Self-Esteem Inventory-3 (Battle, 2002) and student self-reports. These findings breathe fresh insight into a field of study possessing rather limited findings about the connections between

students with reading difficulties, their perceptions of self, beliefs about reading, and their use of SNTs.

Scope and Limitations of the Study

A limitation of this study may be the small sample size. While a cross case comparison of 3 participants provided a rich source of data, a larger sampling may have offered additional insights into this study. As well, participants' socioeconomic status was not reviewed in this sample. A student's socioeconomic status may influence these results. For example, students with the financial means affording them the latest technology may be better versed in its usage and have greater access to such tools compared to students without the financial means to purchase such technology, who, therefore, might have limited to no access.

Another limitation of this study was that while participants were often asked to report on themselves for this research, it was possible that they may not have held accurate views of themselves or their behaviours. In other words, some of the research gathered relied on self-reporting by the participants. However, the use of multiple methods of data collection was an attempt to secure an in-depth understanding of the phenomena in question (Denzin & Lincoln, 1998). This type of data collection is otherwise referred to as methodological triangulation and allows the researcher to "combine strengths and correct some of the deficiencies of any one source of data" (Patton, 1987, p. 60).

Another limitation of this study may involve any biases or assumptions that I might bring forward as a researcher, such as any preconceived notions of the use of technology. For example, the idea that students who are overly savvy for their age in the

use of technology most likely came from families who could financially afford such technology, or that their parents may have allowed them to spend more time using technology in their spare time than reading traditional print, playing sports, or experiencing play outside. In order to avoid these beliefs affecting the study, I was careful to report the information as it was stated by the participant.

Other biases that I might have brought forward involved any preconceived notions of students with reading difficulties. For example, perhaps their parents could have read to them more as children to support their literary growth. To overcome these beliefs, the researcher researched multiple sources and took educational courses to gain a better understanding of reading difficulties.

Outline of Remainder of the Document

Chapter Two identifies current literature and gaps in the literature related to current and future use of SNTs, students' perceptions of such technologies, combined with an overview of the research related to how students with reading difficulties perceive themselves. Chapter Three identifies the methodology used in the design of this research study and how the data were collected, recorded, and analyzed. The results of this research are explored in Chapter Four, with the dissection of three different case studies. A cross comparison of these individual cases are then explored to highlight points of convergence and divergence. A discussion of the findings including their theoretical and educational implications is found in Chapter Five, along with the limitations of this research.

CHAPTER TWO: CRITICAL REVIEW OF RELATED LITERATURE

In this chapter, I will provide an overview of the research related to current and future use of Social Networking Technologies (SNTs), students' and teachers' perceptions of such technologies, combined with an overview of the research related to how students with reading difficulties perceive themselves. Research shows that students with reading difficulties tend to have lower self-esteem, and that their peers tend to view them less favourably as well. The purpose of this research then was to examine if the use of SNTs can help promote a student's positive perception of self, and, additionally, boost their image in the eyes of their peers.

While much research has been done to highlight and understand the benefits of technology in the classroom, such as Assistive Technology (AT), there is a lack of research focusing on what effect the use of technology has socially for students, specifically, what effect do SNTs have on a student's own self-esteem? Burgess (2009) points to this gap in the literature,

Because the idea of social networking as a means of learning and support in online education is so new, it will be some time before the application of such a concept is understood empirically. Future research should focus on how learners make sense of their own identities and abilities as a result of the support gained from or through their online contacts. (pp. 69-70)

Also, there is much to understand about the effects of technology in relation to an increasingly younger age group. For example, it is the preteens who are the fastest growing market for cell phone companies (Hale & Scanlon, 1999), and yet, the effects that technology, such as text messaging and interactive media, have on this young group,

is yet to be thoroughly explored. Plester, Wood, and Joshi (2009) suggest that it will be essential to investigate this relationship, “it will be important to see what associations appear, and to explore the implications for the language curriculum” (p. 147).

What are Social Networking Technologies?

As Burgess (2009) pointed out, understanding the effects of social networking is still quite new; however, we can certainly begin a journey of understanding. SNTs are closely connected to Information and Communication Technologies (ICTs), which means, quite simply, communication of information through the use of technology. As fast as current literature helps to explain the latest technologies, an even newer technology is being readied to hit the market. This means, in the rapidly evolving world of technology, that for each new ICT that surfaces, a new literacy is required for its effective use (Leu et al., 2005). For example, the Internet demanded new reading and writing skills that were never required with book technologies (Coiro, 2003). Just as future ICTs, similarly, will require new forms of literacy.

For the purpose of this paper, how ICTs are used socially are examined. These technologies are called SNTs and will include text messaging, twittering, Facebooking, MySpacing, blogging, and emailing. This chapter does not focus on the use of technology for assistive purposes. Assistive Technology is technology that assists students with reading difficulties to achieve higher success and to become more independent (Hecker, Elkind, Elkind, & Katz, 2002).

While much research shows how Assistive Technology benefits students in the classroom, there is still research to be done on what effect technologies, such as SNTs, can have on a student. This paper then explores how the use of SNTs affect students, and

how they perceive themselves socially and academically. This paper specifically focuses on the link between students with reading difficulties who, therefore, traditionally, have lower self-esteem, and how their concepts of self are affected by the use of SNTs.

Technology is Here to Stay.

Hannon (2004) stated that with the arrival of the computer and the development of other new technologies, such as Twitter and Facebook, the result has been rapid changes in literacy and stresses that the need for educators to keep abreast of these ever new developments in technology is imperative.

Leu et al. (2005) write that, “if students are prepared only for the foundational literacies of book, paper, and pencil technologies, they will be unprepared for a future in which the new literacies are required by new Information and Communication Technologies (ICTs)” (p. 1).

Technology has helped shape the modern world today, and will continue to have an even more dramatic and widespread impact as years progress. Some suggest that on a widespread level, technology has even influenced the path of politics. Kahn and Kellner (2008) claim it was the internet and its’ blooming of hypertext that gave people liberating power through “technopolitics” (p. 25). Kahn and Kellner state that the, “constantly evolving and mutating media ecology compels people to understand, negotiate, struggle with, and ultimately transform contemporary technology and society” (p. 23). Digital technologies of everyday life are transforming United States politics, giving a voice to activists and information to the voting public. We know the internet and Wikis, blogs, or sites such as YouTube, can, for example, even help politicians win or lose office. After all, even President Obama has his own blog. Kahn and Kellner suggest blogs, or web logs

have become so popular in part because they are easy to create, and are easily accessible. It is stated that had it not been for the internet, Barack Obama would never have become president, since it gave him the ability to tap into social networking and organize thousands of supporters (Miller, 2008). Presidential campaign support also comes now in the form of text messaging. A campaign donation can be made through a simple text by cell phone (Lemire, 2012).

Withrow (2004) writes that, “the truly disadvantaged learner in the twenty-first century will be the learner without technology” (p. 50), and, politics aside, the power of technology is put to use perhaps more frequently on a localized scale in our day-to-day lives, right through our fingertips. Small tech is defined as iPods, cell phones, digital cameras, and personal digital assistants (PDAs). PDAs can be effective tools for managing the messiness of text-mediated work and creating conditions that allow organizations to emerge from local practices (Hawk et al., 2008). In other words, PDAs are useful in abbreviating and organizing thoughts and text, and their size simply make them convenient to carry around and connect with others. According to Hawk et al., there are plenty of uses for small tech; (a) medical doctors and therapists are using text messaging to keep in contact with their patients; (b) parents use texting to keep in touch with their kids; (c) Russians are using it to drum up Communist support; and (d) teens use small tech so much that it can sometimes even affect their sleep habits, they text to include friends, exclude friends, to bully, to flirt, to cheat, and to find friends.

The current generation of young people are the first so-called digital natives, “they write, and perhaps even think in this alternate speech... this language that has become part of their primary discourse into the more formal language of school and

society” (Turner, 2009, p. 64). Technology can be considered a first language for digital natives.

According to Hawk et al. (2008), the current culture is, driven by immediate gratification of the impulse to be connected. Chatting, messaging, searching, surfing, listening, downloading, archiving, playing, trading, buying, and selling promote an ‘all media all the time’ sensibility. This unparalleled growth in connectivity signals a change for education, and tasks, motivation, and structures of learning will change dramatically in the decade ahead. (p. 151)

Hawk et al. add that, “group participation, strategic short-burst, high-stimulation engagement and response, and sustained identification with virtual spaces of participation are the mind-drugs of the current future” (p. 152).

Richardson (2009) writes that current tools, such as Twitter, are, “allowing us to deepen our connections and make our learning networks more powerful and more real. We learn on demand. Our teachers come in all ages and colours, from all over the world” (pp. ix-x). A study by The Nielsen Company (2009) found that more than 80% of Americans had computers in their household, and of those almost 92% had internet. While a report just 9 years prior, from the Stanford Institute for the Quantitative Study of Society (Nie & Erbring, 2000) found 65% of American households owned a computer, and 43% of American households were connected to the internet. Judging by these studies, we might expect the adoption of technology to continue to grow at a staggering pace. One question this might raise, however, is: What are and will the implications be of

those families who cannot afford such technology in their homes, and what of this digital illiteracy gap for their children in a digital world?

Information and knowledge sharing have become intertwined with technology. Email and chat rooms rapidly became popular tools that provided many with an avenue to connect with others, while hypertext promised the rise of a more active reader, and the vision of the Web as a global information network suggested that students and researchers would have near-infinite resources at their fingertips (Hawk et al., 2008). With the rapid development of technology, it will not only be a continuous challenge for educators alike to stay informed and up-to-date with new emerging literacies, but imperative for properly preparing their students. Leu et al. (2005) state that “New literacies regularly change as new technologies require even newer literacies. Thus, because literacy is regularly redefined by even newer technologies, learning *how to learn* may become just as important as learning particular technologies” (p. 4).

The current, millennial generation is, “the first generation to grow up with technology integrated into their lives-cell phones, I-pods, computers, the Internet, instant messaging, texting, MySpace and Facebook accounts, computer and console video games and multimedia” (Nikirk, 2009, p. 20). When it comes to cell phones, young people are part of the fastest growing group of users. Plester et al. (2008) reported that a media literacy audit found in 2006 that 49% of 8- to 11-year-olds had their own cell phones as did 82% of 12- to 15-year-olds. A significant increase was shown between the ages of 10 (40%) and 11 (78%). The number of 7- to 10-year-olds owning a cell phone had almost doubled in 3 years, from 13% to 25% from 2004. In the 8- to 11-year-old group, 82% who did have a phone used it for text messaging, as did 93% of 12- to 15-year-olds. In

fact, texting was more popular than talking for both age groups. In 2000, there were an impressive 17 billion text messages sent worldwide. Four years later there had been 500 billion messages sent by worldwide users (TMC, 2009, para. 3). These numbers continue to increase at blinding speeds. Today, more than 1 in 4 Americans use text messaging (Shiu & Lenhart, 2004, para. 2). The United States was ranked number one in the world in 2012 for its use of social media. The United States had the greatest share of social network users as a percentage of the total population (49.9%), while Canada was ranked second (with 49.3%), followed by South Korea (with 46.6%) (EMarketer, 2012). In 2011 Canadians sent a total of about 78 billion SMS messages, in other words an average of almost 2,500 every second that year, a total up almost 40% from just the previous year, according to numbers compiled by the Canadian Wireless Telecommunications Association (Text messaging, 2012). The amount of personal texts sent every year has nearly quadrupled from 2008 to 2011 and is up nearly 20 times over 2008's total of 4.3 billion, sites the same study. In other words, the use of technology such as text messaging is clearly growing at a staggering pace.

In this tornado of technology use, research has found young users are becoming addicted to their mobile phones, to the extent that it feels like they have lost a limb without them. Young people reported feeling mental and physical symptoms of distress without their phones, astoundingly evoking, “similar feelings to the ‘phantom limb’ syndrome suffered by amputees” (Alleyne, 2011).

It may not be surprising then that researchers, who look to the future, declare our lives will become completely entwined with technology. For as much as the internet has done for us in the last 10 years, small tech is anticipated to have an even greater impact in

the current decade (Hawk et al., 2008). Small tech is already being integrated into biological systems. Handheld devices are used for isolating, purifying, or amplifying DNA (Thacker, 2004). The use of texting and iPads are already changing the quantity and speed of information communicated to clinicians in the medical field, and improving the quality of health care (Savel & Munro, 2011). According to Bonsor (n.d.), the future is fashionable, (para. 1) designer computerized clothing is being tested by companies such as Levi. While the new digital clothes are not necessarily designed to replace the personal computer, they will be able to perform some of the same functions. Nikirk (2009) reports that NASA scientists found that button-sized sensors placed under the chin could collect nerve signals which would be sent to a processor and computer program and then translated into words, and that by 2059 this technology, which will require thinking words, not saying them, will be worn in necklaces. In a future where some have predicted self-driving cars, it is not farfetched to believe that, “game helmets used by the U.S. army and video game players to read brain waves, will be used as tools to teach new concepts by brain connections” (Nikirk, 2009, p. 23). Nikirk suggests that in addition to virtual teaching, academic courses may be learned by wearing these brain helmets.

Educational Relevance of Social Networking Technologies in Schools

Currently, electronic communication is seeping into students’ schoolwork (Lewin, 2009, as cited in Turner, 2009). For example, some concerned educators refer to textspeak as an inevitable evil, suggesting it is the “downfall of the English language” (Turner, 2009, p. 60). Some educators feel that students’ dedication to and love of text messaging may spell the end of the English language, that proper English will be replaced by poor grammar, slang and misspelled words, and that, in fact, the popularity of

text and email slang among young people is to blame for slipping standards of literacy (Barker, 2007). However, Richard Sterling, former director of the National Writing Project says students' passion for texting is not a worrying issue at all (Lewin, 2009, as cited in Turner, 2009). In fact, Sterling claims that if textspeak or slang does surface in academic assignments, it can be turned into teachable moments. Wheeler and Swords (2006) explain that students can be taught about the nature of language and to negotiate the technology-driven discourse within the confines of the school language, that using textspeak as an example of code-switching might actually acknowledge the legitimacy of the language. Turner suggests that, "perhaps teachers and parents should not look at this language as deficient; rather, we should embrace students' existing knowledge" (p. 61).

For educators concerned that textspeak encourages language to decline, Ian McNeilly, a secondary school English teacher and director of the National Association for the Teaching of English quells those fears, "I don't think text message and MSN messenger styles are a sign of declining standards, but changing literacies. Children are usually capable of differentiating between the two" (as cited in Barker, 2007, para. 15). Plester et al. (2009) support this claim; their research found there is little evidence that using text messaging is damaging to preteen children's standard English ability and also found that children are able to move freely back and forth between languages, understanding that textisms are not appropriate in the context of their formal testing.

In fact, Plester et al.'s (2009), psychologists from Coventry University, recent study found educational relevance in using text messaging, discovering that it is students with high literacy abilities who are more likely to use abbreviations and other textisms. In their research, participants between the ages of 10-12 were asked to compose text

messages they might write in different sets of scenarios. Their messages were coded for types of textisms and a ratio of texts to total words was calculated to indicate “density of textism use” (p. 145). The study found that knowledge of textisms was positively associated with reading and spelling attainment, and that text literacy is positively associated with standard English literacy. The authors suggest it should not be surprising to learn that texting has a positive link to reading attainment, arguing that “many, if not most textisms are essentially forms of phonetic abbreviation” (p. 147) and that to create and read these abbreviations requires phonological awareness. Plester et al. (2009) conclude that, “children’s use of textisms is not only positively associated with word reading ability, but that it may be contributing to reading development in a way that goes beyond simple phonologically based explanations” (p. 155).

Over the centuries, language has evolved and will continue to evolve. For example, 20 years ago telling someone “to google it” would draw a blank stare, whereas today it is commonly found in the dictionary. According to research, whether educators like it or not, digital technology is here to stay. While some teachers find such technology annoying or distracting in the classroom, others in the educational field are looking to utilize tools like text messaging in education. Bethan Marshal, a teacher trainer at King’s College in London, finds textspeak useful; she suggests, “It teaches them aspects of grammar, because to communicate effectively you have to break sentences down into their constituent parts” (as cited in Bennett, 2001, para. 13). The Scottish Qualifications Authority (SQA) has even declared that English answers written in text message language are acceptable as long as they are correct and the candidates showed they

understood the subject (Politicians Condemn Exam Chiefs for Accepting ‘Text Speak’, 2006).

Social Networking Technologies as Motivational Tool

The tools used to text message, cell phones, are finding a useful way into the classroom, not only as relevant educational tools, but also act as motivating tools to get students more engaged in their work. Researchers at Melbourne University have discovered that for some students who find writing difficult, cell phones have improved their literacy (Maslen, 2006). Instead of viewing cell phones simply as communication devices, the researchers say that cell phones play a role in learning, and can serve as hand-held computers. The rationale cited behind their study was to explore the technology students value and feel comfortable using. One of the principals in the project discovered the benefits of cell phones in the classroom and stated he, “had been looking for something to excite disengaged students and had been ‘overwhelmed by the resulting enthusiasm’”(Maslen, 2006, para. 15).

Inez Brown, an 11th grade English teacher found her students unmotivated and, school wide, achievement test scores had been falling (Focus on Effectiveness, 2009). In searching for ways to engage the students, she discovered that the one thing the entire class did get excited about was discussing their phone features. In thinking about how to incorporate such technology into learning activities, she realized that text messaging is, “a real-world example of summarizing, to communicate information in a few words the user must identify key ideas” (Focus on Effectiveness, 2009, para. 5). Brown used a texting exercise to help her students better understand *Richard III* because she knew that if the students could understand the Shakespeare passages well enough to summarize

them, their comprehension of the play would increase. She realized that through texting, her students were already mastering an ability to summarize, and that cultivating that skill would help them identify critical information, and, therefore, better comprehension in their school material (Focus on Effectiveness, 2009). Keeping in mind that a text message could hold only 160 characters, Brown divided her class into groups to respond by text to a series of questions on *Richard III*. Brown used her email account to send text messages to their phones, understanding that the space constraints would force them to summarize, she told them to decide what was most critical about the passage, and then restate their understanding. After group members had emailed each other their responses, they then met collectively to post a group answer on the weblog. Brown felt she had accomplished her goal of motivating students to engage with the content of *Richard III*, and that they were able to summarize their understanding of key information in the text.

Those educators who have embraced technology agree it is an effective way to get students engaged in what might otherwise be seen as boring or unrelatable work; instead, students become active learners and participants. Drucker (2008) found that, “Wiki-type consensual knowledge production encourages active learning and participation” (p.152). A resource for teachers developing curriculum and lesson plans, called Teachers Pay Teachers, lists worksheets for educators who utilize textspeak, describing one text messaging assignment as, “an excellent activity for connecting students to the language of Shakespeare through their favourite mode of speaking, Text Messaging. Students will take a passage from the play, Macbeth, and make it a text” (Teachers Pay Teachers, n.d.).

Whether teachers are prepared to face this new form of literacy, technology is the future of education and teachers must, therefore, find a way to utilize such tools in the

classroom and make a progressive shift in their pedagogical practices. Richardson (2009) says,

In order for us to prepare our students for what is without question a future filled with networked learning spaces, we must first experience those environments for ourselves. We must become connected and engaged in learning in these new ways if we are to fully understand the pedagogies of using these tools with our students. We cannot honestly discuss twenty-first century learning skills for our students before we first make sense of that for ourselves. (p. x)

Social Networking Technologies are Advantageous for All Students

SNTs are proving advantageous for all students. Withrow (2004) suggests that digital technology is a useful tool because it, “brings together learning resources so that they are available to the learner... and allows for the teacher to organize for the learner a wide range of experiences. It is both a micro and macro window on the world” (p. 53).

Some colleges and universities have tapped into the technology of iPod’s for educational purposes, issuing the gadgets to incoming students to (a) access their course lectures or related content, including audio eBooks; (b) listen to or watch course related podcasts; and (c) view calendar events and contacts (Cesarini, 2008). Cesarini states,

Given the potentially revolutionary role podcasting could play in the coming years by allowing basically anyone to become their own radio station-free to express their own personal or political views, free to express their own musical tastes –and given the broad appeal the iPod and subsequent iPod culture continues to have on our students and in education, I suppose a better question would be, why shouldn’t we care about the iPod? (p. 100)

Harley, Winn, Pemberton, and Wilcox (2007) found that universities are tapping into the benefits of texting to support students' social transition into school. The University of Brighton discovered, after studying their students in an undergraduate program of Applied Social Science, that texting is the dominant mode of electronic communication amongst those students and plays a central role in maintaining their social networks. Researchers found that the text message dialogue between students offers emotional and social peer support and facilitates an informal system of interdependent learning (Harley et al., 2007).

Aphek (2005) claims that texting is beneficial for students; by using basic alphabetic literacy, young texters are becoming experts at photo-visual literacy, in which icons become the new letters. Students have an ability to see symbols used for meaning in their shapes as well as in the symbols they represent. For example, smiley, dismayed, confused faces or even a person with glasses smiling widely can all be represented through the use of various symbols on the key pad (Austin, 2008). Plester et al. (2008) argue that because cell phones and texting are increasingly available to young students, who are still developing their written language skills, it is increasingly important to recognize the links between texting and academic competence.

Research has also found that students benefit from using the internet. Students can go on virtual field trips, that otherwise may be too far away, too dangerous, or too expensive (Pritchard, 2007). Students can chat and ask their peers or teachers questions online; if a student responds to question incorrectly, she can redirect them or refer them back to a helpful chapter. Teachers can also help parents who feel unprepared to assist their children, and teachers can provide immediate feedback, which can encourage

students to access additional resources to extend their learning further (Salend, Duhaney, Anderson, & Gottschalk, 2004).

A study by Salend et al. (2004) found the internet can improve homework communication and completion. In one case study, a teacher created a web site called HAC (the homework assistance center) for her students and their parents, which included useful tools such as a link for facilitating online homework groups. The teacher noted an improvement in her students' homework completion and an increase in communication with families. Salend et al. found the site minimized the difficulties some students had copying and remembering assignments, the teacher could (a) clearly list assignments with directions, guidelines, and due dates; (b) give reminders on tests; (c) involve the parents more; and (d) importantly, adapt homework to the educational needs of individual students by varying content and length. The educator could give parents a confidential password to help explain assignments to parents to avoid possible embarrassment and to access their child's individualized homework assignments.

Differentiated Instruction (DI) Through Social Networking Technologies

Technology serves not only the average student, but can greatly benefit the student needing more individualized attention. Researchers suggest that Individualized Education Programs (IEPs) are beneficial. According to Gajria and Salend (1995), students with disabilities often (a) experience greater difficulty completing their homework, (b) require more homework assistance, and (c) have more negative attitudes toward homework than their peers without disabilities. To counter these homework difficulties, researchers have proposed practices that teachers can use to individualize homework assignments and motivate students to complete them (Salend & Gajria, 1995).

Essentially, Differentiated Instruction (DI) is teaching the same curriculum to a varied group of learners, at a variety of levels using multiple teaching and learning modes (Thomlinson, 2000). Differentiated Instruction in the classroom is an effective way to connect to each student's individual needs, rather than a one size fits all style of pedagogy. The idea is that students learn in different ways and are at different levels of learning, and, therefore, teachers should acknowledge this with such instruction, benefitting each individual student not just the majority group of students.

Salend et al.'s (2004) study found that, "an important factor in making homework an effective instructional tool is the extent to which educators individualize assignments and make them meaningful to students' educational program" (p. 67). With a menu of homework assignments online, students could choose the assignment that accommodated their learning style, interests, and skills, and their method of displaying their learning (Salend, 2004). For as many students who have unique learning styles, so are there as many unique and creative tools and ways to meet their needs in the world of technology, with the click of a mouse or a press of a button. Online, the world truly is every student's oyster.

Reading Difficulties and the Consequences

It is through spoken and written words that we are able to efficiently complete our day-to-day tasks, on a local and global scale. It is with language that we communicate, educate, do business, rear our children, and simply complete our tasks. Knowledge of language is inarguably the foundation of success in today's society. But, unfortunately, millions of children are not so equipped. Shaywitz (2003) writes that 10 million children in America alone have difficulty reading; in other words, 1 in 5 American children

struggle to read. Older students struggle as well, “the majority of adolescent readers in our schools routinely struggle when it comes to comprehending what they read as part of their academic assignments” (Underwood & Pearson, 2004, p. 135). Those with reading difficulties have challenges reading and decoding words or comprehending the written text. Sometimes, these children come from a low socioeconomic status (SES). Research has found that minority students and those from low SES households do tend to have more reading difficulties (Donahue, Finnegan, Lutkus, Allen, & Capbell, 2000). In fact, Durlak (1995) reported that the biggest single predictor of academic performance before a child reaches elementary school is the family’s socioeconomic level. Hemphill and Tivnan (2008) found that, “parents of low-income children are less likely to engage in school focused conversation and book-reading routines that promote school-relevant language and literacy skills” (p. 427). It is commonly understood that the parents’ role in developing good literacy practices at home is an important foundation that contributes to a child’s success or failure at school (Gregory & Williams, 2004).

However, reading difficulties can also stem from other factors such as genetic disposition, central nervous system damage, trauma, premature birth, low birth weight, and environmental hazards (Fletcher, Lyon, Fuchs, & Barnes, 2007; Lerner, 1997; Shaywitz, 2003). Reading difficulties can often also be the result of a host of interacting factors or contributing causes. According to Gunning (2006), “these factors may be classified as cognitive, linguistic, psychological, social-emotional, physical and educational” (p. 27).

Researchers are also continuing to explore what role gender plays in literacy as statistically girls continue to outperform their male counter parts (Donohue et al., 2000).

Lerner (1997) reports that traditionally studies have shown that four times as many boys as girls were identified as having learning disabilities. Although more boys are identified with learning disabilities, some researchers question if the disproportionate numbers could be due to simply many girls not being identified (Lerner, 1997).

Gunning (2006) explains that generally a reading disability means a difference exists between the student's ability and achievement. For example, a student with a fifth-grade ability should be able to read at a grade 5 level. Although, Gunning sites there are clearly discrepancies in defining reading problems, but explains that "traditionally discrepancies have been described in terms of students reading one or more years below their capacity" (p. 3). Gunning also points out that there is no agreement on a definition of intelligence or how it should be measured. For example, Gardner (1999) introduced the theory of multiple intelligences, arguing that intelligence can be represented through as many as seven different forms.

While a student who struggles with his/her reading does not necessarily have a learning disability, often this is the case. Lerner (1997) cites that reading difficulties is a common characteristic of a learning disability, "about 80 percent of the students with learning disabilities have disabilities in reading. They have problems with learning to decode words, with basic word-recognition skills, or with reading comprehension" (p. 16).

Dyslexia is the most common learning disorder (Fletcher et al., 2007). In Lyon, Shaywitz, & Shaywitz's study (as cited in Fletcher et al., 2007), although they are frequently misinterpreted as such, learning disabilities (LDs) are not synonymous with

reading disability or dyslexia, though currently much of the information concerning learning disabilities does relate to reading disabilities.

LDs were designated as a disability in the United States in 1968, and now (Fletcher et al., 2007) represents approximately one half of all students receiving special education nationally. Fletcher et al. state that learning disabilities were categorized into seven different areas; listening comprehension (receptive language), oral expression (expressive language), basic reading skills (decoding and word recognition), reading comprehension, written expression, mathematics calculation, and mathematics reasoning. And often these separate learning disabilities also “co-occur with one another and with deficits in social skills, emotional disorders, and disorders of attention” (p. 9). Having a problem in more than one area is referred to as comorbidity (Fletcher et al., 2007). In part, it is this comorbidity that is often to blame in the confusion of diagnosing a student’s difficulties. “No single problem has plagued the study of learning disabilities more than the problem of definition” (Fletcher et al., 2007, p. 25). According to Fletcher et al., definition issues remain inadequately resolved and the lack of clarity has interfered with the provision of accommodations, “the persistent lack of definitional clarity has impeded the accurate identification of children and adults in need of services” (p. 25).

Not only are definitions often murky, in some cases because researchers just cannot agree, frequently deficiencies go undiagnosed or are misdiagnosed, largely because many disorders share similar behavioural traits of those with other disorders or, as mentioned previously, a child may have multiple disorders (comorbidity). One such example, a disorder such as CAPD can often coexist with, “language disorders or delays, learning disabilities or dyslexia, autism or autism spectrum disorder, attention deficit

disorder or developmental delay, and social/emotional problems” (CADDAC, 2009, para. 2).

Reading Difficulties and Academic Performance

Feiler and Logan (2007) state, “the need for all children to achieve sound levels of literacy is uncontested” (p. 162). Literacy has been “linked to academic success and later life adjustment” (Hemphill, & Tivnan, 2008, p. 428). The academic fallout for students who struggle to read is lifelong. Researchers have found that students who have difficulty with text tend to avoid reading, and, therefore, their reading difficulties are perpetuated (Stanovich, 2004). This snowball effect where struggling readers have an even harder time catching up is called the Matthew Effect (Stanovich, 2004). Poor readers tend to fall farther and farther behind their counterparts while, “the rich get richer” (Stanovich, 2004, p. 480). Durlak (1995) suggests that the presence of early academic troubles can be a predictor of later learning problems, and can eventually result in behavioural and social difficulties, special education placement, and dropping out of school.

In fact, according to 2004 data from Statistics Canada (2007), only 62% of students with the lowest reading literacy had finished high school. While almost all students who attained the highest levels of reading literacy graduated by 19. Furthermore, the study found that only 28% of youth with the lowest reading literacy level had done some type of postsecondary education (Statistics Canada, 2007). Without a postsecondary education and particularly without a high school education, achieving financial success in life can be more difficult to attain. Statistics Canada (2007) reports that without literacy skills and academic qualifications, Canadians face higher risk of encountering barriers to

employment, enjoy less financial security, and fewer positive social outcomes. Recent statistics show how reading disabilities can carry over into adulthood. Over 3 million Canadians between 16 to 65 years of age have difficulties processing printed materials for understanding and experience some form of reading difficulty or disability (Statistics Canada, 2005).

Riley (2001) states that in society, success depends on a well-educated and highly literate workforce. Burka's (2004) report of Texas' public schooling cites that educational attainment is the best predictor of income, so it comes as no surprise that dropouts earned an average of just \$19,000 in 2002. Their unemployment rate has been 75 percent higher than the rate for graduates. They are more likely to end up in prison: Two thirds of the state's inmates don't have diplomas. Well-known Texas economist Ray Perryman, has estimated that a 10 percent reduction in dropouts would produce 175,000 new Texas jobs and \$200 billion in economic output. (p. 12)

Self-Perception and Academics

Lewis and Lynch found that competence in literacy has a considerable impact on the development of positive self-perceptions (as cited in Feiler, & Logan, 2007). A study examining links such as students' self-perception, achievement motivation, and academic achievement and performance found that "students' self perceptions had strong influences on achievement motivation and study and organizational skills. Students who had more internal attributional styles were more likely to have more positive self perceptions about their mathematics and verbal skills" (Clemons, 2008, p. 7). While this study focused on gifted students, the research does shed a light onto the link between

academic achievement and self-perception. Other researchers have also found there is a link between self-perception and academic success, that students with more positive self-perceptions are much more likely to have high achievement motivation and strong study and organizational skills (Carr et al., 1991; Meece et al., 1990; Pintirch & DeGroot, 1990; Pintrich & Garcia, 1991).

Reading Difficulties, Self-Esteem, and the Perception of Self

For the struggling readers who do not receive proper intervention, self-confidence often suffers. Co-director Sally Shaywitz (2003) of the Yale Center for the Study of Learning and Attention says that self-confidence is probably the most important ingredient in ensuring that a child is ready to read and is setting out on a good path. She argues that the most important thing for a child leaving kindergarten, is how she feels about herself, so she will be motivated to read, “without motivation and the sense that he can succeed, a child will have little reason to struggle as he tries to pull apart words that seem to be inseparable” (p. 193).

Harter and Pike (1984) report that, “children who have been held back a grade for academic reasons reported lower perceived cognitive competence than those experiencing normal promotion” (p. 1979). Shaywitz (2003) reports that the fallout for those who struggle to read runs deep,

Dyslexia inflicts pain. It represents a major assault on self-esteem, and can be reflected by a reluctance to go to school, moodiness or spoken feelings such as ‘I’m dumb’ or ‘I get teased a lot’. Adolescents feel shameful and try hard to hide their reading problem. (pp. 116-117)

Shaywitz reports their struggle comes with continuous assaults on their self-worth, “there is an erosion of self esteem that accrues over the years as a child struggles to read” (p. 120).

A study by Champman and Tunmer (2003) found that students with reading difficulties tend to develop negative reading related self-perceptions. According to Lerner (1997), there is a close connection to those with reading difficulties and those with reading disabilities. Lerner (1997) states it is often the case that students with reading difficulties also have reading disabilities, citing that reading difficulties are a common characteristic of a learning disability.

Researchers Renick and Harter (1989) found that learning disabled students perceived themselves as becoming less academically competent compared to their normal achieving peers. A student with a learning disability does not only have a poor perception of self, but their peers perceive them poorly as well. A study by Stiliadis and Wiener (1989) of children with learning disabilities 9 to 12 years old, found the learning disabled students obtained lower social perception and peer acceptance scores than their nondisabled peers. Kuhne and Wiener (2000) found that learning disabled children were likely to lose peer status and be seen by peers in less favorable terms.

“Building self-esteem is essential for later success” (Shaywitz, 2003, p. 301). A poor perception of self has damaging and long-lasting effects. A report by Kuhne and Wiener (2000) found that students with learning disabilities have lower social preference scores and were more likely to be socially rejected, and the study found that children with learning disabilities, who are rejected in the first half of the school year, tended to maintain this rejection. In other words, a negative image can tend to remain with a child.

Further, Leigh (1983) found that, “labels may serve as self-fulfilling prophecies because of lowered expectations among parents and teachers,” and that children who are labelled may then have lowered self-concepts (p. 2). However, the positive and negative consequences of labelling are controversial. In some cases, parents or educators may actually seek out a label for their child. For example, Mallory and Kerns (1988) found in their research in New Hampshire that,

In order for the 3-year-old previously served by early intervention to continue receiving services under the auspices of the public school, he or she must be found to be educationally handicapped and assigned one of the 11 diagnostic categories found in federal and state regulations. For some children, this requires that a specific label be applied for the first time, as they were previously simply referred to as at risk. (p. 41)

Cox (2000) notes that the price for children who fall behind their peers academically is monumental, self-esteem from a young age is affected, and there is a cost to expensive remedial programs. The remnants of academic failure can be reflected in higher rates of antisocial behaviour and carries on through life with missed employment opportunities.

A direct link between self-esteem and reading difficulties can be seen in research by Knight (1990). The study followed grade 1 students who failed the reading comprehension portion of a test; these same students were also evaluated as having low self-esteem. However, after 12 weeks of working on improving the writing process, students were retested and found to have improved reading comprehension scores and, correspondingly, results also showed growth in self-esteem. In other words, working on

the students' writing system seemed to increase comprehension and, therefore, self-esteem.

Shaywitz (2003) believes that early identification and help is key to saving esteem, "the sooner a diagnosis is made, the quicker your child can get help, and the more likely you are to prevent secondary blows to her self-esteem" (p. 127). Shaywitz reports that she has,

Watched so many parents lose precious time by wanting to 'wait a little longer' or to 'give it time,' I want to remind you that no amount of denial or rationalizing will change the situation; it only puts your child further behind and damages his self-esteem. A child needs help before he fails. (p. 257)

Self-Esteem as Measurable

Harter and Pike (1984) have made significant contributions to literature and our understanding of children's perceptions of self. Harter and Pike's scales of perceived competence and social acceptance for children help us to better examine constructs such as self-concept and self-esteem. Other frameworks had "sought to assess self-concept or self-esteem primarily through the calculation of a single score, summing items across diverse domains" (p. 1969). However, Harter and Pike's framework assesses, "self-judgements separately within specific domains in order to provide a profile of self-perceptions across these domains" (p. 1969). Harter and Pike also suggest that children do not view themselves as equally adequate in all domains and that children are not capable of making judgements about their worth as persons until they are about 8 years old.

Harter and Pike (1984) also report that this age group of children do not make a clear distinction between cognitive and physical domains; in other words, children believe that, “competence at one type of skill is associated with competence at the other. One is either ‘good at doing things’ or one is not” (p. 1980).

Harter (2000) reports there are five domains in which children 8-12 years old base their self-esteem; (a) scholastic competence, (b) athletic competence, (c) peer likability, (d) physical appearance, and (e) behavioural conduct. Those with reading difficulties, tend to feel lacking in at least two of these categories, scholastic competence and peer likability and, in some cases, behavioural conduct.

Promoting a Different Sense of Self Through Social Networking Technologies

Since much research supports the notion that traditionally students who struggle to read, or have a learning disorder, have poorer self-esteem than their peers, and that their peers also perceive them more negatively, could the use of SNTs help bolster a student’s self-perception?

As previously discussed, students can benefit from the use of SNTs, and, in fact, can see an increase in their quality of academic work. For example, Plester et al. (2009) writes that the freedom found from regulated orthographic and spelling conventions in defaulting to phonological coding, or, in other words, using abbreviations found in text messaging, “could yield an increase in exposure to text for poorer readers, and improve motivation to engage with written communication without the constraints of school expectations” (p. 147).

If these technologies can help raise the level of academic work, can SNTs, therefore, also raise the level of self-esteem in students with reading disabilities, since

esteem has proven to fluctuate based on academic success? Not only does Social Networking help build esteem through academic success, but Burgess (2009) states that social networking also acts as a form of important social support. This social networking can create bonds and bridge new friendships. For students with reading disabilities, who tend to be viewed less favourably with their peers, could this new form of networking then also act as a social cushion, helping to build friendships and, therefore, self-esteem? Burgess also points out that online social networking can allow anonymity, which for shy students or those afraid of being teased this ability to assume a virtual identity may be comforting, and a way to receive quiet emotional support and virtual friendship. Austin (2008) writes that, “Our creativity surges when opportunities for maintaining human contact present themselves” (p. 104).

While technology and SNTs can assist in the classroom, the use of SNTs for a social connection has automatic appeal, particularly for young people, and perhaps especially then for those who tend to have a lower self-esteem, seeking validation or support, such as students with reading difficulties.

Purpose of the Study

The purpose of this study was to research how students with reading difficulties perceive themselves through SNTs. Traditionally, students who are poor readers suffer from low self-esteem, and are also viewed more negatively by their peers, compared to those of their average peers. This sense of lacking leads to a feeling of isolation and poor self-worth, and can eventually snowball into poor grades, dropping out of school, and a less fulfilling life.

However, if these students with reading difficulties ,who are traditionally more isolated and less popular, are able to connect through SNTs, a form of technology that is current, engaging, appealing, and motivating for young people, would their self-image increase, and what impact would that have?

Harter and Pike (1984) concluded that there was a need to better understand students with learning disabilities, and a need for an instrument to assess the self-perceptions among special subgroups of children such as those with learning disabilities.

Plester et al. (2008) affirm that there is, indeed, currently a gap in the literature of younger students use of SNTs, and its effect, specifically text messaging, “research to date has focused on adolescents and young adults who have already learned to read and write standard English to acceptable levels of achievement” (p. 138).

By researching the relationship students with reading difficulties have with SNTs, their use of SNTs, and their concept of self with and without the use of SNTs, we may better understand the impact these technologies have on students’ image of self. This research may also open the door for further questions, such as: How do perceptions of self compare between students with and without reading difficulties as they use SNTs; or Does self-perception stay the same, regardless of use of SNTs? Also, what implications would this have for students with reading difficulties if their sense of self is improved through use of SNTs? It is vital to understand students and their relation to SNTs since technology is the future classroom. As Withrow (2004) has said, “the truly disadvantaged learner in the twenty-first century will be the learner without technology” (p. 50), and technology and its new form of literacy are ever changing.

CHAPTER THREE: METHODOLOGY AND PROCEDURES

This chapter provides an overview of the methodology used in this study. This is a qualitative study using a collective case methodology (with the use of supporting descriptive data). The data collection techniques used were surveys, individual interviews, and documents. Information regarding the design rationale, methodology, data collection, participants, data analysis technique, credibility and ethical considerations are outlined in this chapter.

Overview

To date, there is little known about how SNTs impact students' reading as outlined in Chapter Two. While research has been conducted to study how students with reading disabilities use assistive technology in the classroom, there is a gap in the literature in understanding how students with reading difficulties use SNTs. Questions arise as to whether students with reading difficulties use SNTs more or less than their peers. Do they feel they are able to use this form of literacy as well as their peers? Do they feel socially accepted by their peers when they use these technologies? How does the ability to navigate or not navigate SNTs affect their self-esteem? The primary purpose of the study was to explore the experiences of students with reading difficulties as they related to using SNTs. The secondary purpose was to explore students' perceptions of reading and their perception of their self while using these technologies. Therefore, the overarching purpose of this study was to examine if the use of SNTs can help promote a student's positive perception of self.

Methodology

The overall design used in this qualitative research was a collective case study (Thomas, 2011). Within this case study, a mixed method design, with a survey, interviews, and documents were used. The central perspective of qualitative research is that it should consider the participants' view, describe it within a setting or context, and explore the meaning people personally hold for the research issue (Creswell, 2002). "Qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places under study, and data analysis that is both inductive and deductive and establishes patterns or themes" (Creswell, 1998). A qualitative study was chosen in order to gain an in-depth understanding of the perceptions of the participants involved. Individual perceptions were highlighted through the individual cases with main themes and categories highlighted through the case stories. These themes were then compared across the case to examine the commonalities and differences between the participants. This research examined students' own perceptions of self, readers, and as users of technology, and how they believed others perceived them. It served as an attempt to draw common themes from their experiences of literacy and technology and how this may be linked to self-esteem. The goals of this research were consistent with the goals of a qualitative study, as qualitative methods are most appropriate when conducting interpretive inquiry because they are geared toward understanding, observing, and experiencing natural events (Creswell, 2002).

A collective case study refers to a study in which multiple cases are described and compared to provide insight into an issue (Stake, 1995). Case studies provide one of the best bridges "to rich, qualitative evidence to mainstream research" (Eisenhardt &

Graebner, 2007, p. 25). Yin (1994) stated that collective case designs have advantages, such as providing more compelling and robust findings, and suggested that the analytic conclusions arising from the two or more cases would be more powerful. This collective case study model allowed the researcher to analyze individual cases and then assess points of convergence and divergence, to help bring light to commonalities between participants' perceptions of self and possible links to self-esteem and literacy.

Data Collection

The data collection process included a survey, individual interviews, and documents. The use of multiple methods reflected an attempt to secure an in-depth understanding of the phenomena in question (Denzin & Lincoln, 1998). This type of data collection is otherwise referred to as methodological triangulation:

using more than one data collection approach permits the evaluator to combine strengths and correct some of the deficiencies of any one source of data. Building checks and balances into a design through multiple data collection strategies is called triangulation. The triangle is the strongest of all geometric shapes, and triangulated evaluation designs are aimed at increasing the strength and rigor of an evaluation. (Patton, 1987, p .60)

The techniques of data collection used in this study were participant surveys, individual interviews, and documents. As outlined in the case study approach (Yin, 1994), it is important to incorporate different sources of evidence in order to gather a comprehensive overview of the phenomena of interest. Seven data collection methods were used to gather information from the participants over a 3-week period. The participants and their mothers were interviewed first, with the participants then

completing a written questionnaire and self-esteem test. Finally, weekly documentation was kept by the participants to record weekly usage of SNTs. These documents or technology logs were reviewed the following week by the researcher in their meeting. In the third and final week, the participants were administered an exit interview after reviewing their technology log.

Survey

Child participants were asked to complete the James Battle's (2002) Culture Free Self-Esteem Inventories (CFSEI-3) questionnaire. This inventory is designed to measure self-esteem in children. Brubaker (2000), in the Encyclopedia of Special Education, uses the terms self-esteem and self-concept interchangeably. Battle also uses these terms interchangeably and defined self-esteem, "as the attitude that an individual has toward himself or herself" (p. 1). The CFSEI-3 is a, "norm-referenced, self-report instrument designed to elicit perceptions of personal traits and characteristics in students" (Battle, 2002, p. 3). The CFSEI-3 manual discusses two kinds of reliability measures: internal consistency and test-retest reliability (Battle, 2002). The internal consistency analysis suggests that the instrument is consistent (with the data demonstrating reliabilities in the .80s). For the test-retest reliability, a sample of 77 people tested twice in a 2-week period using the CFSEI-3 (Battle, 2002), found scores fell in the .70s and .90s (Community-University Partnership for the Study of Children, Youth, and Families, 2011). According to Aiken, 2000, Nunnally & Bernstein (1994), and Salvia & Ysseldyke (1998; as cited in Battle, 2002) for an inventory to be considered minimally reliable, "it's reliability coefficients must approximate or exceed .80 in magnitude" (p. 24).

The Intermediate Form (ages 9-12) was used for 2 of the participants, and the Adolescent Form (ages 13-18) for another. For all participants, the subscale standard scores (academic, general, parental/home, personal) were combined to create the Global Self Esteem Quotient (GSEQ). The GSEQ then, “reflects the basic theoretical model underlying the inventory, and is highly reliable...important decisions about diagnosis should rest only on the interpretation of the GSEQ scores” (Battle, 2002, p. 15). According to the content sampling, the average coefficients for the GSEQ exceed or round up to .80, “a level that is indicative of good reliability” (Battle, 2002, p. 24).

The self-esteem test was hand-scored, using Battle’s (2002) profile and scoring form, which includes four subscales. The purpose of this test was to better understand, using a valid testing and scoring system, how accurately each child participant felt about himself or herself. Research has shown that students with reading difficulties (RDs) tend to have lower self-esteem and perceptions of self than their peers (Harter & Pike, 1984; Shaywitz, 2003).

Individual Interviews

Interviews are important for several reasons. For example, they can be used to supplement survey responses. As well, they offer a verbal explanation to written results, that otherwise could be open for misinterpretation. For example, the researcher used the weekly interview time to clarify participants’ responses on their technology logs. The interviews conducted for this study followed a semistructured interview guide (Appendix A) which is important to allow for focused questions on the topic but also allows for participants to speak freely about topics and issues of importance to them within the area of study (Patton, 1987). Individual interviews were conducted with the student

participants as well as with their mothers. Interviewing the parent was useful to gain richer information about the child. The parents' information supplements the participants' information about their technology usage. Information was also gathered about parents' usage, their child's self-esteem and reading ability, as well as views about reading. This information added depth and breadth to each case.

Documents

The documents helped to provide more detail and accuracy to the information collected for this study. For example, the participants were asked to keep a technology log to record their daily usage. These results were reported back once a week. It was hoped that having participants use these documents would enhance the accuracy of their record keeping.

Step 1: Session One (Initial Data Collection Session).

At the first session, which lasted approximately 60 minutes, the consent and assent forms were reviewed and discussed as necessary. A demographic questionnaire was then provided to each parent (see Appendix B) and child to complete (see Appendix C). Parents and students completed these questionnaires in separate areas of a local public library. The questionnaires allowed for the gathering of descriptive information about the child participants and their use of SNTs including the purpose, comfort level, and frequency of their use of these technologies, overall perceptions of belonging, as well as perceptions of belonging with peers when using such technology. Another purpose of this questionnaire was to gain useful insight into the parents' usage and perceptions of SNTs.

Data collection also included completing interviews with parents and their children during the first session. The purpose of the interviews was to explore the

participants' perspectives about print-based forms of reading and writing, their perspectives of SNTs, and their views of self/their children (i.e., self-esteem). Parents and children were interviewed separately in an attempt to help create an environment where participants would speak honestly and openly. The semistructured interviews involved further discussion about their views and usage of SNTs (see Appendix A). Interviews were audio recorded with the permission of the interviewee. Audio recordings were used to increase the validity of the data collected.

During the first session, the students were also asked to fill out the James Battle's (2002) Culture Free Self-Esteem Inventories (CFSEI-3) questionnaire. The survey was beneficial to accurately gauge and understand participants' self-esteem.

The sixth type of data collected involved the use of a weekly technology log. This log was handed out at the first meeting. The participants were provided with instructions about how to fill the log out over the next several weeks, and were asked to record daily notes and thoughts about their technology usage (see Appendix D).

Step 2: Session Two (Weekly Log Collection).

The researcher met with participants weekly to review, elaborate, and clarify their log entries, with this process taking an average of 15 to 20 minutes. These sessions were audio-recorded with the participants' permission.

Step 3: Session Three (Weekly Log Collection & Exit Interview).

The last data collection method involved a session to discuss participants' technology usage during the third week and was followed immediately with a final interview (see Appendix E). This exit interview was the seventh piece of data collected. During their exit interview, participants were asked about (a) their experiences using SNTs, (b) their

experiences of belonging with peers while using the technology, (c) their beliefs about how their use of technologies compared to traditional print-based forms of reading and writing, and (d) how they perceived themselves as readers and writers.

Participant Recruitment

This age group of 9-13-year-olds was selected after consulting informally with parents and teachers, who confirmed that many students in this age group are using SNTs. Following approval from Brock University's Research and Ethics Committee, recruitment started for this study. Parents or guardians of clients of Brock University's Reading Clinic were provided with a letter of invitation. The letter indicated that the research was being completed by a Master of Education candidate, that it would take 4 weeks of their time, and would include both parent or guardian and their child between ages 8-13 years old. The letter indicated that the purpose of the research was to examine the experiences and perceptions of students using SNTs, and that the study may help the education community better understand the experiences of students who have reading difficulties with respect to using SNTs. It also explained that the study was intended to explore whether these students feel confident connecting with their peers using SNTs, as well as their perceptions of themselves as readers and learners in connection to using these technologies. See the interview guide in Appendix A for the specific interview questions. The parents or guardians were given stamped and self-addressed envelopes to mail their letter of invite back to the researcher. The students invited to participate were between the ages of 8-13 years of age and experienced some kind of reading difficulties. Parents of these students were also asked to participate. If either a parent or student

expressed a wish to withdraw, both sets of data related to the parent/child would be withdrawn.

Unfortunately, no participants were recruited using this strategy. Some parents were interested but expressed they would be away during the upcoming summer months, and several who took the letters home, never returned them. In the end, the final 3 participants were found through convenience sampling (with appropriate modifications to the original REB application). Convenience sampling is a nonprobability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher (Neuman, 1997). These participants were known to the researcher and lived in the Niagara Region. Although convenience sampling is not seen as the most ideal method, some writers have suggested that convenience sampling is the most common form of qualitative sampling (Ritchie & Lewis, 2003) and was deemed acceptable for the purposes of this project.

Three participants were, thus, included in this study. All participants were from southern Ontario, and all attend different public schools. Pseudonyms were assigned to the participants and any identifying information has been changed to maintain anonymity and confidentiality. In this study, the participants will be referred to as Jill, Doug, and John. An overview of the participants' profiles is provided below.

Jill

Jill, a 9-year-old girl, was entering grade 4. She had never been diagnosed with a learning disability but had difficulty reading and was reading below her grade level as identified by her mother. When she was in grade 3, she was reading at a very low grade 3 level. She was placed on an IEP (Individualized Education Plan) in grade 1 at her school.

Jill described herself as funny, kind, and friendly. She is the oldest child, with one sibling. She said that she “fits in okay” at school. She stated that she was not really popular, but had a lot of friends. Her mother said that Jill is very hard on herself and that Jill gets disappointed with herself because she has problems with reading, writing, and spelling. Her mother says that Jill feels that she is not good at what she does and will never get better at it. Jill’s mother elaborated that she was a victim of bullying throughout grades 1 through 3. Her parents were divorced when she was in kindergarten and her father had no contact with her for years. However, during the time of this study, her father had resumed contact again with Jill. The summer these interviews were gathered, Jill was in the process of transferring schools.

Doug

Doug, a 13-year-old boy (almost 14 at the time of study), was entering grade 9. He had never been placed on an IEP. Teachers had told his mother that he struggled in reading, but Doug does not believe that reading is an area of difficulty. He said that when he was given a book he enjoys, such as *The Outsiders* (Hinton, 1967), that he finished reading it before everyone else. But when he was given a book he was not interested in, such as *The Giver* (Lowry, 1993), he struggled to read it. In other words, Doug believed his ability to read a book well depended on if he liked it or not. Doug believed that others perceived him as a leader because he would stand up for what was right and not what was necessarily popular. He said his best quality was that he was willing to help others when needed. Doug said he was one of the most popular students at school and that he had a lot of friends. Both of his parents and his two younger siblings are supportive of him.

John

John was a 12-year-old boy going into grade 7. He was the youngest of three children. John received an IEP at school. When he was 10 years old and in grade 4, he was assessed as having a MID (Mild Intellectual Disability), according to a district school board report. He was found to have borderline scores on measures of verbal and visual reasoning, and low average scores on working memory. He was reported to be at risk academically and he required a modified curriculum to help him develop comprehension skills and strategies. According to the same test, John's self-confidence was weak. His progress across literacy and numeracy tasks had been slow, despite intervention from the learning resource teacher since grade 1, and support and tutoring from home. He struggled with reading comprehension, mathematics problem-solving, and writing his thoughts in an organized and coherent manner.

John described himself as nice and kind, and believed that his peers view him similarly, although he said he is not that popular, and he was not sure why. John's mother said that his self-esteem was average because he struggled at school. While she said he has a lot of friends, she did not feel that he fit in totally. He described himself as a good student and stated that he found it easy to do reading and writing assignments. He came from a traditional, dual parent home.

Data Analysis Technique

According to Yin (1994), it is important to follow a mode of analysis, such as pattern matching, explanation building, or time-series analysis, when analyzing a case study. To analyze this research, the pattern matching approach was used within the individual case studies, and then a constant comparison method was used to find

overarching themes amongst the cases. Using the constant comparison data analysis method (Corbin & Strauss, 2008; Glaser & Strauss, 1967), the researcher develops key themes through a continuous process of creating and assessing meaning units, then comparing the data to examine the relationship between themes. The individual cases are examined for key themes and then cross referenced for emerging themes across the other cases.

The interviews were transcribed, and then the data were sorted by hand in a systematic process. The researcher read through the transcripts line by line and looked for developing themes. As themes emerged, the data were highlighted and colour coded. This data was then clustered together so that contrasts between cases could be highlighted (Miles & Huberman, 1984). A meta matrix table was then created to examine all of the categories that appeared from the individual cases, to cross compare points of convergence and divergence between collective cases. Along with the interviews, the technology logs were also examined individually, and then compared across the other cases.

In order to analyze the Culture Free Self-Esteem Inventories (CFSEI-3) surveys (Battle, 2002), the subscale standard scores (academic, general, parental/home, personal) were combined to create the Global Self Esteem Quotient scores. These tests were hand scored, using Battle's profile and scoring form, which included the four subscales. After individual case scores were totalled, the researcher was able to analyze the data looking for differences and similarities among the participants in terms of their self-esteem scores and individual interview data.

Establishing Credibility

To ensure the richness, credibility, and trustworthiness of the research, a variety of data collection methods were used. This approach allowed for the comparison of the data sources which worked to ensure the accuracy of the data (i.e., data triangulation); as well, it provided a rich and comprehensive portrait of the participants. This triangulation procedure also ensured checks and balances were present in gathering data through multiple collection strategies. The triangulated evaluation designs were aimed at increasing the strength and rigor of an evaluation (Patton, 1987). Field notes also were taken by the researcher during the research study that allowed her to record notes and outline major points at the time of the interviews. These notes were then consulted at the time of the data analysis to ensure the consistency and accuracy of the findings.

Ethical Consideration

This study was provided clearance by the Brock University Research and Ethics Committee (file #09-264). Once the study was approved by the committee, the process of inviting participants was started. Informed consent was gained from the parents and assent was gained from their children as the participants were under the age of 18 years. At the beginning of the first session, the consent and assent forms were read over with the participants and their parents, describing the process, reminding them that they may discontinue at any time, and that their willingness to participate or not participate would not affect their standing or treatment in any program in any way. The parents or guardians were also reminded that the findings would be disseminated and that they would receive an executive summary upon the completion of the study.

The interviews were transcribed by a professional transcriptionist who signed a confidentiality agreement. All data were stored in a secure cabinet with identifying information removed. Access to the data was restricted to the principal investigator, her advisor, and the professional transcriptionist. The participants' names are kept confidential, with all names changed to pseudonyms to ensure confidentiality.

Every effort was made by the researcher to accommodate and make the participants feel comfortable. Building rapport with the students, making them feel comfortable during each meeting was an essential part of this project. The meetings, originally scheduled to take place over 4 weeks were moved to 3, in response to participants' time constraints. This was achieved by including the exit interview onto the end of the third week's session. In addition, the meetings took place in an area of the participants' choice which, on most occasions, was in the public library. The meetings were also scheduled around the participants' timetable. Although we worked to try and keep the timing of the weekly meetings consistent, the researcher was flexible, adapting to participants' requests for schedule changes.

The overall design used in this qualitative research was a collective case study (Thomas, 2011) to gather more robust findings. Within this case study, a mixed method design, with a survey, interviews, and documents were used. This type of data collection, methodological triangulation (Patton, 1987) was used in attempt to secure an in-depth understanding of the phenomena in question (Denzin & Lincoln, 1998), by building checks and balances into the design through multiple data collection strategies to increasing the strength and rigor of the evaluation (Patton, 1987, p. 60). In the next

chapter, these cases will be analyzed individually and collectively across the cases to understand themes and examine points of convergence and divergence in the data.

CHAPTER FOUR: PRESENTATION OF RESULTS

This chapter presents the findings from the research project, which is a combination of the interviews, surveys, questionnaires, and logs. The data presentation consists of case studies of the participants (identified by pseudonyms) and the subsequent themes that emerged from these cases. These themes are then analyzed collectively across the cases to examine points of convergence and divergence in the data (Yin, 2009).

For each of the cases presented below, the interviews and questionnaires are presented first, followed by the findings from the Technology Logs, then the results from the data gathered from the James Battle's Culture Free Self-Esteem Inventories (CFSEI-3) questionnaire (Battle, 2002). Lastly, the exit interview is presented and discussed.

Interpretation of Findings

Following are the case studies for Jill, John, and Doug.

Case Study: Jill

Reading ability. Jill is a 9-year old girl who was entering grade 4, and, at the time of the interview, was in the process of transferring to a new school. Jill's parents were separated and Jill lived with each of her parents throughout the year. She was not diagnosed with a learning disability but she does have difficulty reading and is reading below her grade level according to her mother. She was placed on an IEP in grade 1 at her school and was reading at a very low grade 3 level at the time of this study.

Her mother stated that Jill is "very hard on herself" and that she gets disappointed with herself because she has problems with reading, writing, and spelling. Her mother commented that Jill believes that she "isn't good" at what she does and that she "can never get better."

Jill says she prefers to use traditional methods of reading and writing over using the computer to read and write, “I would say sitting down and doing it by hand because it helps your writing better and it helps your skills to write and stuff.” When asked how the traditional way of reading and writing are different from using the computer, Jill expresses that she prefers the speed of traditional writing.

Well, it’s different because if you’re writing it out on a piece of paper you can just get started right away. But when you’re using a computer, it takes you a while to load it up and get the subject and to start. And then you might forget your title and what you’re going to do...So it’s better to write it out by hand and then reprint it if it’s sloppy that you can reprint it. Then you don’t have to say, oh, my gosh, I forgot it. Now I can’t do it. So it’s better to write it out by hand.

When asked how she views traditional reading and writing, Jill demonstrated a negative perception of her abilities, “Well, I try my best to do it, but sometimes I don’t get a good mark but I’m still happy that I’ve done it.” Jill stated that she enjoyed reading more than writing as she currently she is being tutored by a family friend twice a week in reading, which she says is making reading more fun.

When asked how she does at school, Jill stated that she does “good.” Her mother says that she originally set Jill up with an email account to help her improve on her reading and writing. Jill’s mom was hoping that using technology would help her academically by making her become more aware of spelling and grammatical sentences.

Initially, it was a sneaky way to help her with her reading and writing and to communicate with family that travel and that are abroad, and friends. And also in her class this year they tried to do a blog.

Perception of self. Jill perceives herself as friendly, kind, and funny and she believed that her classmates perceived her in the same way. Her mother describes Jill as honest, loyal, caring, and sensitive. Jill states that she “fits in at school”, she is “not really popular,” qualifying that she has a lot of friends, and she feels that she is accepted by her peers, and that she is “in the middle” popularity-wise. Jill commented that “the popular kids are the ones who pick on people.” Her mom says that she fits in at school and says that she is a “social butterfly” who gets along with everyone. However, she also commented that Jill’s classmates’ perceptions of her did not always make her feel good. Jill’s mother also explained that there were instances of bullying and teasing by the boys at her former school. Jill has been a victim of bullying from grade 1 to grade 3. Her mother says her daughter’s self-esteem is okay but not high: “It’s not low but it’s not high... I think because of a few things. Everything that she’s been through so far in her life and her struggles with schooling.”

When asked about her thoughts on schoolwork and academic work in relation to self-definition and representation, Jill responded: “ Pretty much, yes.... I’m smart and not so smart. But I think I’m more smarter than not so smart...Because in like dividing and plussing, I usually get the answers right.”

When asked if Jill’s performance in school affects how she views herself, her mother responded “absolutely,” stating that it makes her feel worse about herself. Her mother also explained that Jill’s performance in school did not influence how her peer’s perceived her.

Jill also switched schools towards the end of this research, and she, like Doug, also indicated that she was achieving much higher marks, and that her teacher was more

supportive this year than her previous year. She also said she felt more confident in school this year compared to last.

Use and perception of technology. Jill's mother is comfortable using technology and describes herself as an expert. She stated that she helps Jill in how to use SNTs. Jill's mother uses Facebook, texting, and emailing more than once a day and she is open to learning the latest SNTs. She allows Jill to email and her father allows her to text, so Jill only emails and texts. Jill uses email and text messaging about once a week and it is usually on weekends to stay in touch with family and friends. Her parents do not live together and her aunt, uncle, and cousins live in Japan.

Jill says the SNTs she feels most comfortable with is email and she uses this form of technology the most. Although her mother says that Jill does not feel comfortable using SNTs "because she has problems with reading and spelling." Jill emails for about 10 to 11 minutes and texts for about an hour each weekend, using her father's phone. Jill says she texts with her father, mother, step mother, and aunt. She says she uses SNTs more than her friends. Jill spends more time doing traditional forms of writing than she does on the computer.

Perceptions of self when using technology. Jill says that using SNTs sometimes makes her feel "bummed out" because then she misses her friends. However, she also stated that sometimes it makes her feel happy because she gets to talk to her friends. While Jill's parents often help her use technology, Jill, in turn, feels confident enough using technology to "sometimes help my friends." Jill does not feel that she fits in better with her peers when using SNTs. Although Jill says she uses SNTs once a week, she believes that popular kids use SNTs a lot more than she does. Her mother says it is too

hard to tell if using technology helps Jill be more accepted by her peers as not all of her peers are old enough to use technology.

When asked how important it is for her child to be able to navigate and learn the latest technology, Jill's mother responded, "Oh geez. You want your child to fit in, so I would have to say it's important."

Technology logs and follow-up usage interview. In the first week of completing the technology log, Jill did not text message. Jill indicated that this was unusual as she usually texts on the weekend. She emailed one of her aunts who lives locally and she was going to email her teacher, but she had the wrong address and it bounced back. She emailed a girlfriend once for about 5 minutes because it is summer break and she "hasn't seen her for a long time." Jill is in the process of switching schools and moving houses at the same time. The girl she emailed was in her grade at her former school. She asked her friend when she could come over to her new house for a play date, and when a third friend might be coming for a sleep over.

Jill stated using this technology made her feel happy as, "I finally got to talk to her again.... I like being connected with my friends, it's fun, exciting to email them, and it's fun to see them and stuff." When asked if Jill thought her relationships would be different if she did not have technology to email her friend, she said yes because she lives, "far apart" from her friend, and she does not think they would be as close of friends, "I wouldn't have anybody to talk to and stuff. I would be like, what can I do Mom?"

The second week Jill stayed at her father's house and indicated that "pretty much the whole weekend I was texting." She did not email anyone, however, because her father

did not have a computer available. Using her father's phone, she texted her aunt, her father's fiancé, and tried to text her mother, but could not find her number. She would have texted her friends, but she did not know if they had phones or how to get a hold of them.

In the third week of keeping the technology log, Jill only used text messaging as she could not remember her email address. She texted one of her aunts who lives locally, and her papa (grandpa).

Exit interview. Jill stated that she usually takes a long time to do her homework because she often does not understand the question and has to ask her mother for help "because sometimes if it's like a really long word and it's.. and it's really... like sometimes I don't get the word and I won't get the question."

Jill also claimed that she is always happy with her schoolwork and that she does not care what level she achieves, "It doesn't matter. It doesn't matter what you get." However, her mother has stated that Jill is hard on herself, "she hates that she has problems with reading, writing, and spelling. She feels that she isn't good at what she does and can never get better at it."

Jill explained that she felt that other boys and girls were doing better than she in reading because they were "smart." Jill stated that she is improving at reading because she is practicing a lot. Jill answered positively when asked if most boys and girls play games better than she:

We were playing this game-I don't remember what it's called-but you have to make a word. You get seven things to make a word. And you make a word. The

first one to finish their cards win. And I was playing with my friend...and she got all her cards finished two times in a row and I didn't.

Jill believed that boys and girls were better than she at reading, writing, and math but also indicated that she was not concerned about her grades. "I just really feel if I'm happier with my mark. I don't really care if I get all C's...I'll still be happy." Her mother, however, suggested that this is not always true and that Jill often becomes upset with lower marks.

When asked about her technology usage, Jill stated that she is "not real good," and that she is "still learning" how to use technology, and that she does not feel like she fits in any better with her peers because she can use it. She says she is not as good as her peers at using technology, but that she is about in the "middle." She thinks others are better at using technology because her class has class jobs, and those who are good at technology are chosen for these jobs. She prefers traditional forms of reading and writing, and thinks she is better at it because she is still learning how to use the keyboard: "Because say if you're keyboarding it and... the keys are all scratched up and you don't know which letter is, you might get confused because... the keys are over here and like all the letters."

When asked if she is a good reader, Jill also stated that she is "in the middle." She believes that a good reader is someone who reads thick books. She indicated that her mother and one of her friends she emails are good readers because they read thick books. Jill says she is better at reading than writing, and that sometimes she might forget how to spell a word. She says that sometimes when she is writing she does not "know where she's going with her stories," that she is "everywhere." Jill defines what a good writer is,

“like they’d have lots of juicy words in it, like really active.” She explained that her friend, who she considers to be “a really good writer,” wrote her own story in grade 2. She believes that overall she is an “okay” reader, but that some of her peers are better at reading and writing. She says she will feel “proud” for her classmates who do better at reading and writing than she, but that sometimes it makes her feel bad about herself that she is not at that level.

I really wanted to be the class rep and to go up in front of the whole school to do to present my story. But I, my marks were just not too good. So I’m going to go home and practice with my mom all the time to make sure I get it, so I’ll get chosen to go in front of the school too. So sometimes if my reading is like this low, I feel really bad.

During the course of this research, Jill entered grade 4 at her new school. She likes her new teacher and she feels more confident than last year and believes that she is performing better, “this year for my word test, I’ve been getting fours.”

CFSEI-3 results. Jill’s scores reflected that she has average self-esteem, in all four categories of the CFSEI-3 (i.e., academic, general, parent/home, social) self-esteem test (Battle, 2002). Jill also scored 100 (50th percentile), on the Global Self-Esteem Quotient indicating an overall, average self-esteem. Jill scored a 4 on the Defensive Score (or lie scale), indicating that her answers were valid.

Summary

Overall, Jill is a young girl who has trouble reading and also with spelling and writing. While Jill acknowledges these difficulties, she also claims that she was not concerned about her grades. Her mother believes that that is not the case and that Jill is

concerned with her grades and gets upset when she receives lower marks. Her mother believed that “she isn’t good at what she does...and has a negative perception of her abilities.” However, the CFSEI-3 self-esteem test (Battle, 2002) results show that Jill possesses average self-esteem across all four measurable categories.

Jill also has a lot of friends, although she has been a victim of bullying. Jill has been placed on an IEP although she does not have a diagnosed Learning Disability. Jill says she prefers using the traditional methods for reading and writing, but this may also be attributed to her younger age and unfamiliarity with technology. She does, however, use email and text messaging. Overall, Jill indicated she is “not real good” at using technology.

Case Study: John

Reading Ability. John is a 12-year-old boy entering grade 7. John is on an IEP. When he was 10 years old and in grade 4, he was assessed as having a MID (Mild Intellectual Disability), according to a district school board report. He was found to have borderline scores on measures of verbal and visual reasoning, and low average scores on working memory. He was reported to be at risk academically and he required a modified curriculum to help him develop comprehension skills and strategies. According to the same school board report, John’s self-confidence was reported to be “low.” His progress across literacy and numeracy tasks have been slow, despite intervention from the Learning Resource Teacher since grade 1 and support and tutoring from home. John and his parents acknowledge that he struggles significantly with reading comprehension, mathematics problem-solving, and writing his thoughts in an organized and coherent manner.

John describes himself as a “good” student who enjoys traditional reading and writing activities. He explained that he tries to complete school assignments as quickly as possible as opposed to putting them off. However, John also stated that sometimes his homework does not get done on time because he does it last minute, “because I just want to hang out first for a while,” which seems to be a contradiction from his earlier statement. When asked if it makes him worried when he does not get it done on time, he says, “it doesn’t matter,” although he acknowledges that this does get him in trouble with his teacher. He stated that he finds it “easy” to do reading and writing assignments. He prefers writing over traditional formats of reading. John indicated that he spends more time on a computer or using technology when reading and writing than using traditional forms of reading and writing. When asked if he enjoys school, John responded that “it’s okay” and indicated it was important to obtain an education as “he’d get a better job.” John indicated that he did not enjoy completing homework.

Perception of self. John describes himself as nice and kind, and that his peers perceive him as funny, nice, and caring. His mother describes him as honest and compassionate. She indicated that he was well-liked and that he had a variety of friends and that he is very social. She believes he was accepted by his peers, and that he fits in well at school socially. However, she acknowledged that he does not fit in academically. She says that generally John’s classmates’ perceptions of him make him feel good, but sometimes they make him feel bad. She says, “he has his moments,” but that, “I don’t think he feels he fits in totally.” When asked if his performance at school has anything to do with how he is viewed by his peers, John’s mother says, “absolutely.” She also stated

that his performance at school effected how he viewed himself. She believed his self-esteem is “in the middle, a level 6 out of 10.”

I believe as he has always struggled in school (and is now more aware of his peers) he sees differences. He is not mature enough to totally embrace them and accept them, but is on his way to learning to deal with them (his differences)... I think he is stronger in some things than others. He’s got a few in his class that struggle like him, so he does have some peers that have issues, So there’s a group and he’s not a single, luckily, which I think would make it harder if it was a single.

John agrees with his mother that he sees himself as “in the middle” with respect to popularity at school. He indicated that to fit in better with his classmates, he would have to talk to the popular kids more. In sum, John believed that he fits in “good” at school, but that he is not that popular and he is not sure why, but that he’s still happy.

When asked if boys and girls in his grade were better than him academically, he said, “a little bit” but that that did not really bother him and that he does not get teased at school. When asked if he would change anything about himself, he replied, “some of my writing,” but interestingly, he also stated that he believed he was a “good writer.” When asked what he would like to change about his academic performance, he said: “Well, sometimes I mess up some words and forget to change them.” John explained his parents expectations for his school performance, “they don’t ask too much, they just want me to do good in school, get good marks...I’m trying to do my best at stuff.”

Use and perception of technology. John has a cell phone, so he text messages. His mother provided the following comment about John's use of the cell phone or other SNTs:

It's the times, and it's something that we monitor...he has so many texts he can use. And he's not erasing them on me. So they're visible for me and I do go on his phone and look. It's the same with Facebook. The computer is right there, in a high traffic area of the house. We walk by. I see who he's talking to. I see what he's talking about. I just think there's a lot of possible trouble and that there are adults who don't realize what they can get into. So it's a high traffic area for me. It's a limited amount of time. They each get a half an hour. The older ones don't like it. But they each get a half an hour on the Internet. And if they don't like it, that's too bad.

John's mother says that she puts tight restrictions on technology use, and that John is only allowed a half hour on the internet each day. John uses Facebook the most of all of SNTs "because there's more people to talk to" and it helps him stay in touch with his friends.

Besides texting and using Facebook, John also uses technology to email. Mother says that John uses Facebook 30 minutes per day, but John says he only uses Facebook for a total of 1 hour a week. Mother says he texts about 3 minutes a month, while John indicates that he texts once a week. Mother stated that John does not email, but John reports that he generally emails once a week. Overall, John's mother believes that he uses SNTs once a day, which she believes is less than his peers.

John described himself as “good” at using technology, but indicated that he is still learning. He stated that he uses SNTs more than his friends, “my friends don’t go on that long, they go offline and I’m still on because I’m still talking to my friends.” Although John states that he uses technology more than his peers, he believes that the popular kids use technology more often than he does. He believes they probably used SNTs once a day (while he says he uses it once a week).

John rated his ability as an “8 out of a 10” for using technology, explaining that his 18-year-old sister taught him how to use SNTs a year ago. He agreed that he gets excited when new technology comes out, but he waits until everyone else is using it to “try it out.”

His mother says she uses SNTs to go on Facebook once a day, and text messages even more frequently. She is open to trying new technology, but admits that John has to help her use it, “there are things that he can do that I can’t do.” John’s mother wants him to continue to learn how to navigate new technologies, “yeah, I’d like him to be open and give it a go.”

John says that he likes using technology and that it is different from traditional reading or writing, “because it’s not as hard...there are not as many big words.” He says when he is using Facebook or texting, he does not have to worry about grammar and spelling “because it’s only texting and Facebooking, you do not have to worry because it is not schoolwork.” John acknowledged that proper spelling and grammar were required for schoolwork, and that it is more fun to not have to worry about them when using SNTs.

Perceptions of self when using technology. John stated that he feels “good” when using SNTs outside of school indicating there is “no right or wrong...it’s more acceptable,” and that “no one is criticizing his spelling.” His mother says that SNTs help John socialize and be more accepted by his peers because “spelling, grammar and context do not really matter.” When asked if he fits in better with his peers when using SNTs, John responded, “yes.”

John’s mother believed that using technology can help and hinder her son, I think a little of both, I think. I think it is easier to talk because you’re not being picked at how you speak or how you spell. But by the same token, what does that mean down the road when you have to spell something?

She thinks that John could be more comfortable using SNTs because grammar and spelling do not matter.

It would make sense because most of his life is structured around it’s right or it’s wrong. A big chunk of your year is spent in school and it’s pretty black and white. You spell a word a certain way and that’s the way it’s spelled. Whereas on the computer, if you use Facebook, and he decides he wants to say goodnight, for example, he could just go ‘g’ and ‘nite’... that wouldn’t be acceptable if he was writing at school and he wrote like that...It’s just more acceptable for him. Nobody’s criticizing his spelling, his grammar, the context of anything he’s doing. If the kids don’t understand what he means, then they’ll just ask him the question again. There’s no, ‘what are you talking about?...stupid...’

Technology logs and follow-up usage interview. In the first week of keeping the technology log, John used Facebook after school for a total of 1 hour and 15 minutes,

“just reading the messages people posted.” He also communicated with his cousin and best friend. John indicated he sometimes asked his friends for help with homework on Facebook. John stated that his mother does not have to watch him when using Facebook.

John indicated that sometimes using Facebook improved his feelings, “Sometimes I don’t feel happy and I go on and talk to people and they make me happy,” but also acknowledged that the reverse could be true as well.

John explained that he likes keeping in touch with his friends and that when he uses the computer he relies on the spell checker, “Whenever I have to write that word out, it makes it easier.”

John also text messaged for about 5 minutes throughout the week to his mom, cousin, friends, and sister. He indicated that he likes to message his friends to let them know where he is and when they can meet him. Of the technology that John uses, he most prefers Facebook, stating that he finds it easier and he has about 125 friends. When asked how he feels about having such a high number of friends on Facebook, he replied, “Happy. I have more people to talk to... cause you can meet new friends on Facebook.”

In the second week, John used Facebook for a total of 1 hour and 25 minutes. He talked to his friends regularly except for 1 day, where he just read postings. He also texted his father for about 2 minutes. However, John could not remember any specifics about these conversations. During the third week, he used Facebook for about 1 hour and 25 minutes. He talked to his cousins “about school and stuff.” He texted with his friends, cousin, and sister for about 5 minutes throughout the week.

Exit interview. On a scale of 1 to 10, John indicated that his self-esteem is an “8” and believed that his friends probably felt about the same of themselves. John says he

really does not like to read traditional print “because some books are long,” but described himself as a good reader. However, when asked if we could find him a book in the library that he would enjoy reading, he said, “not really.” When asked if he has a hobby that he enjoyed, John replied negatively. John says he would rather write than read, and he preferred math to reading.

John explained that he started using Facebook about 2 years ago and started texting last year. He Facebooks about three or four friends in his grade 7 class on a regular basis. He elaborated that the people he Facebooks are those that he is friends with at school, but that overall, he believes he “fits in better” with his peers and friends who are using these technologies.

John also indicated that he texts less than he uses Facebook. He agreed that using technology is different than socializing with his peers in class as “in class you can’t really hang out, you have work to do.” John ranked himself a 9 out of 10 for his ability to use technology.

When asked if he is a good reader, John replied, “I’m okay.” He defined a good reader as someone who knows “every word mostly in the book” and could not identify anyone as a good reader. John elaborated that sometimes when he is reading a book he gets a little bit frustrated, but he tries to, “skip over the words and start reading the rest,” and that he can still get the idea of what it was about. When asked if he knew a good writer, John again indicated that “nobody comes to mind.” He explained that a good writer is someone who knows how to write every word.

John says he is as good as his peers in using technology and that believed it was important to be able to use technology “because I like to keep in touch with my

friends...sometimes they're not feeling good, I can make them feel better." He was especially delighted in using SNTs to keep in touch with an old friend who moved out of the area. He indicated that nothing "negative" ever happened to him while using Facebook and that he finds it "mostly a positive experience." John believed that if he was not allowed to use Social Networking Technologies, he would feel left out and would lose some of his popularity with his friends.

CFSEI-3 results. John's performance scores on the CFSEI-3 (Battle, 2002) reflected that he has average academic and parental/home self-esteem. He scored above average in the categories of general self-esteem and social self-esteem. John scored 110 or in the 75th percentile on the Global Self-Esteem Quotient, which suggested that his self-esteem was in the high end of the average range. According to Battle, GSEQ scores from 90 to 110 are considered normal, although there may be some need to interpret John's responses cautiously:

Scores outside that range are considered problematic and warrant diagnostic attention....examiners should investigate unusually high and low scores because both deviate from the norm and therefore are of clinical interest. Unusually high GSEQs (ie., above 110) may indicate socially desirable response patterns, skewed self-perceptions, or a deliberate attempt to present a very positive self-image.

Nonetheless, a GSEQ above 110 may be as it appears. (p. 15)

John scored a 7 on the Defensiveness Score. According to Battle (2002), Defensiveness Scores that reach or exceed the cut off scores [6 out of 10] should be viewed with suspicion; they warrant further investigation. They imply that the

responding individuals are more reluctant than most people to disclose their true feelings. (p. 16)

Summary

John is on an IEP and has a Mild Intellectual Disability and is academically “at risk” as stated in a district school board report. The same report cites that John’s “confidence is weak” and that his progress across literacy and numeracy has been slow.

There were several contradictions throughout the research for this report. For example, John described himself as “a good student” and that he enjoyed traditional reading activities and that his “writing is pretty good.” However, he also stated that he would change “some of my writing” and that he thinks that his friends believe that he is not a good writer. John also said he does not like to read traditional print, but that he is a good reader, a contradiction from his earlier statement. On a separate occasion, he stated that he is “okay” at reading. When asked if we could find him a book in the library that he would enjoy reading, he said, “not really.” He believed that he “fits in better” with his peers when using SNTs. John also is aware that his peers are performing better than he is academically. John’s mother confirmed that he has a lot of friends, but she says that academically he does not fit in. She believes his performance at school “absolutely” effects how he views himself.

John uses Facebook, emails, and text messages. He says he is “good” at using technology, but that he is still learning. He says he likes using technology because he does not have to worry about grammar and spelling, and he says about using SNTs, “it’s not as hard because there’s not as many big words.” He says that using technology makes

him feel good because “there’s no right or wrong... it’s more acceptable and no one is criticizing his spelling.”

In the CFSEI-3 Self-Esteem test (Battle, 2002), John scored average in the areas of academic and parental/home self-esteem, and above average in the fields of general and social self-esteem. Interestingly, his overall self-esteem scores were on the cusp of being considered “problematic” indicating that he may have provided socially desirable responses. His Defensiveness Score also implied that he may not have disclosed his true feelings while completing the self-esteem assessment. This may also explain why some of his answers throughout this research seemed contradictory.

Case Study: Doug

Reading ability. Doug, is a 13-year-old boy (almost 14 at the time of study) entering grade 9. He has never been placed on an IEP. Teachers have informed his mother that he struggles in reading, although Doug claims that he is a good reader. He explained that when he is provided with a book that he enjoys, he often finishes reading it before anyone else in his class. He also says that he volunteers to read out loud in class. Doug also qualified that when he is given a book that he finds uninteresting, he struggles to read it. In this way, he believes his ability to read well depends on his interest level, “It’s not that I don’t like reading... I read several hockey books and football books. And an essay-if it’s picked on something that I want to do, I could write and write forever.”

Doug prefers to read and write using a computer rather than using traditional print-based reading and writing materials. Doug says he reads a lot every day through the messages he receives through SNTs. He also indicated that he has not “read a book in a while,” (about a month). He reported that he “breezes through” the sports section of the

newspaper. Doug believes the one reason why people may think he's a "bad reader" is "because I'm not a very good speller."

He does not believe that he is a "bad reader", although he acknowledges that he can improve. He defines a good reader as someone who can read fluently. Doug says that his mother is a good reader. He believes his perceived reading struggles are tied to his spelling difficulties. He says his biggest challenge when reading is "not knowing what a word means.... I need to know what it means, it bugs me if I don't." He likes to write and states that he is a better writer than reader. He describes a good writer as, "someone that puts like lots of detail...they put like above and beyond."

Perception of self. According to Doug and his mother, Doug is well-liked by his peers and has many friends. Doug claims he is very helpful, caring, fun to be with, and a leader. For example, if he witnesses something "wrong," he refuses to participate. If someone is making fun of another person, he will tell him or her to stop because he does not "like people being mistreated." He says that a teacher told him that he was "a leader and that she is proud of that and that I'm one of the more popular boys in the class." Doug ranks his self-esteem as an 8 or 9 out of 10 and states that he is one of the most popular boys that in his grade. He commented that he does not have "anything to be down about." He also says that a person is not defined by how they do academically. He refers to himself as a "decent student." However, Doug's mother says that his self-esteem is low in some areas:

poor in school. I believe it's poor in school, but high with his sports or friends.... I think he is hesitant in school because he doesn't want to be frowned upon by his

peers, but I know sometimes if he does get a good mark in something, they'll tease him like wow, I can't believe you got that mark.

She believes his performance in school transfers to how he views himself and also says, "his confidence is low, and he doesn't try." She explained that he does not put an effort into his schoolwork as he is afraid of the outcome. Doug agreed with his mother explaining that he is not satisfied with his schoolwork and that he did not put his best work into it because his teachers expected him not to do well. Doug's mother also stated that "it bothers him that others don't think he's smart."

When asked if Doug thinks there is something he could do to make himself more popular, he says, "I think it'd be better grades, like high marks." Currently in grade 8, he says he achieves marks in the 70s and low 80s.

Over the course of this study, Doug's perception of himself appeared to change. After interviews in August, he switched schools and began grade 9 in September:

I think I'm doing a lot better than I was in grade school. I'm getting 80s and 90s now. I just got 94 on a project I just handed in the other day. I went from doing like barely passing to doing well in academic classes, even though all my teachers like said I should be in open and applied classes. But I wanted to do academic and I get mostly A's and B's in all the classes.

When asked why he thought he has improved so much, Doug explained:

I think it's because I care more and I don't know, I think they (teachers) just assumed for me not to do well because I had been with them...I had those teachers since grade 6 or 7, the same teachers, and I'm more serious about my stuff now and put a lot more effort into it. But I don't know how, like you'd think it'd be

different, like I'd do worse in high school, but I seem to be doing a lot better in high school.

When asked why he cared about school more now, Doug suggested that playing on the school football team was a positive influence, "you have to have good marks to play sports, otherwise, you can't play. So I think that might have been it.... In the classes that I was failing in last year, I got 70s or 80s in." Doug felt that his teachers in grade school were not that supportive:

[they]...didn't really like me that much. And I didn't really give them a reason to like me, but I think they assumed that I was not going to do well because I didn't really care back then, and I think they just figured that I wasn't going to do well anyways. And then like for a reading assignment, I wouldn't do it, so then they wouldn't know how my reading was, so I think that's how they were judging it.

Doug added that it "bugged him" that his teachers assumed that he could not do it, so, in return, he would not do assignments, "just to make them mad or whatever and to get back at them. So I knew I could do better at things, but I was lazy and didn't want to put the time and effort into it." Doug said that he has a much greater interest in school. He also stated that although he never had low self-esteem, his self-esteem had improved from grade 8 to grade 9:

I was always confident and full of myself.... But then I think like being one of the only grade 9s to start in football and have like the best record for grade 9 or whatever, I think that brought my self-esteem up a lot, and just like doing a lot better in school and having the teachers like me and stuff like that, I think that helps too. It feels a lot better going into class knowing I have whatever it is, like

the project or whatever done to the best of my ability instead of going into class not having it done and then making some excuse.

Use and perception of technology. Doug uses SNTs more than once a day, and feels comfortable using these technologies. He has had a cell phone since grade 6 for safety walking home from school, and had to text mom when he arrived home. In grade 7 he began texting friends socially, and then in grade 8 he started using Facebook.

Today he ranks his ability to use SNTs at a 10 out of 10. He said he generally uses Facebook for 30-45 minutes a day, emails for about 45-50 minutes a week, and sends or receives about 100-170 text messages a day. He believes that the “popular kids” use SNTs more than once a day. While he believes he is one of the popular students, he also believes that he uses these technologies less often than his friends. He said that, “some of my friends are using technology most of the day.” Overall, he uses texting the most as he can use his cell phone anywhere, “I think without texting I would be sort of out of the loop, because I text to make plans and connect with friends.”

Doug’s mother agreed that Doug uses these technologies more than once a day. She estimates that he is on Facebook a little longer than he reported, estimating about 60 minutes a day. She reported that he emails for about 10 minutes a week, which is less time than Doug estimated, and she agreed that he uses texting the most with about 120 messages a day or about 2 hours a day. She believes that he is able to keep up with his friends because they are texting “and that is how all his friends communicate with each other.” He uses email the least “because it’s longer, structured sentences. Texting he’s more apt to keep up with them.” Doug’s mother also indicated that he does not blog or Tweet and he does not play video games since he would rather be outside. She also

agrees with Doug that he uses SNTs less than his peers. She feels that his use of technology helps him socialize and be accepted by his peers.

Doug's mother is also an avid technology user, stating that her comfort level with SNTs is very high. Doug shows his mother how to use her cell phone and informs her about texting acronyms. In turn, she shows him how to use the computer. She is open to learning new technology and feels it is important for Doug to do the same. She approves of his use of technology, but monitors "what he is doing." She tracks his Facebook page, his emails, and his text messages, including his erase box every day. She explains that Doug has to hand in his phone everyday and needs to provide her with new passwords if he changes his old ones. While she believes that technologies help him communicate with friends, she also worries that it hinders him because he is not learning to use proper grammar.

Perceptions of self when using technology. Doug indicated that he could be a better writer if "I could text everything I think it'd be a lot easier because I'm a lot faster at that." When asked if he would be more inclined to do his homework or another task better if he could use text messaging, he replied:

I think so because I think it'd save me a lot of time. I can have music playing as I'm texting, stuff like that. But when you sit down a writing assignment, I have to stay here and write all these words. But if it's a certain amount of words, I could text that in a day. So I wouldn't even realize it. It'd just be like I'm sending a message.

Doug also believes that it would be easier to write an assignment through text messaging because he would not have to focus on grammar or spelling, but instead, focus on expressing his ideas. Speaking in third person he explained:

I think kids wouldn't even notice that they're actually doing it than if they had to sit there and do it because then they'd be more worried and self-conscious about their spelling because then they know they've got to hand it in to the teacher. But if you could just text it the way I normally would to my friends, then it'd be done a lot faster. I don't know. I think it'd seem like a lot is lifted off the kids' shoulders because they don't have to worry about it. It depends on if the kid likes texting or not. But to me, I think it'd be a lot easier.

Doug believes that he makes stronger friendships through the use of technology. Yeah, for sure. I'll meet someone through someone. And then we'll start to text and then it'll gradually build up. And we'll be like hanging out and stuff like that. But the texting definitely helps with becoming better friends with people.

He also elaborates that friendships can

gain strength because you don't have to try and find time to talk to someone in person, instead you can find any time to talk to them, by texting them, otherwise, you may not have that time to talk to them in person.

Doug also believed that texting and using Facebook enhanced his confidence:

I think it helps to build friendships and the confidence, too, because consistently over the day I'm talking to people. And I usually don't start the conversations. I'll wake up and I'll have four new texts and I know that they want to talk to me... My mom took my phone away the other day and I had 16 missed calls. So I was like

someone called 16 times. So it's kind of like a boost. Yeah. It's knowing that someone wants to talk to you.

Doug also acknowledged that SNTs can be stressful, explaining that most individuals expect immediate responses:

and sometimes they'll keep sending it, or they'll be like are you there? And it gets annoying, especially if you're trying to do something because then your phone just keeps going off. Or they keep calling you.... I don't really find it addictive, but I know some people that do and they just sit around on the computer all day. I don't know. I think it's different for me because my phone, I can do all of it right from my phone. So I can just do it from wherever.

Doug also indicated that it is easy to misinterpret text messages, you can type things and you can think it a way in your head but then someone else will take it like you're being rude or take it the wrong way. Then it can cause a lot of problems. So that's another difficult thing about communicating over text or email.

When asked whether texting for extensive amounts of time could be problematic, Doug responded, "I don't think so. Not really. Like I said, I don't really spend a lot of time on it. I don't spend time on Facebook much".

Technology logs and follow-up usage interview. In the first week, Doug was unable to access the internet on his phone, so he only text messaged from his phone. He went on Facebook one time at a friend's house but said it was "overwhelming" because he had so many notifications (23). Doug indicated that he texted about 200 times a day this week. Most of the conversations involved making plans with friends.

In week two, Doug texted, emailed, and used Facebook. He used Facebook and email the least, “for only about 3 hours or so.” Contrarily, he text messaged constantly, for a total of 10 hours a day, “not consistently, but like total, that amount in a day.” He indicated that he begins texting from the time he wakes up until the time he goes to bed at night. He says he was texting mostly to make plans with people during the day and to have day-to-day conversations. At night, however, he communicates with “selective people, I mostly only talk to girls on the phone at night.” He also indicated that he was texting people that he met through other friends over the week.

In the third week, Doug went on Facebook briefly at night before bed, totalling about 5 hours. Doug indicated that he “almost didn’t use email at all.” Texting continued to be Doug’s technology of choice, for about 2 to 3 hours daily.

Exit Interview. Doug stated that he likes himself the way he is and would not want to change anything about himself, “I’m comfortable with myself and who I am.... I think it doesn’t bother me because I’m trying to put an effort in to getting better.” Contrary to previous interviews, he admitted that doing poorly academically bothered him a bit, “It would kind of suck getting 3 out of 15 or whatever on a spelling test. Yeah, it would suck, but I wouldn’t lose sleep over it or anything.” Doug explained that it would harm his self-esteem if he knew he was trying his best and was failing. In some cases, he said he did not try because “I didn’t want to fail.” In other words, Doug reasoned that if he did not try, he could not “fail” because he would know that *had* he tried, he could have succeeded.

Overall, Doug said he felt “pretty comfortable” using the technology of texting and Facebook over the course of this study. He preferred to write using his phone, relying on its checking functions:

as I write, it will underline whatever’s wrong, and I’ll write full words and stuff like that, and proper punctuation and stuff like that... I think it’s easier for the other person to read, and I think it’s kind of helping me for like spelling and stuff because I’ll have to go back and correct it anyways...Like if I type something wrong, it corrects it... I can click on it, and it’ll tell me what it can be, and I like have to pick which one....I think it’s helping me with my spelling and like punctuation and stuff like that.

Doug stated that he gained confidence knowing that individuals were receiving messages that were spelled properly. Doug said he prefers to text in full sentences. He used to text in short form, but now that his phone corrects his texting, he prefers to write out the full sentence. He indicated that this technology increased his academic confidence:

I also have a spell check app on my phone, so I’ll type something or I’ll write a paragraph or whatever, then I’ll spell check it on the phone. And it’ll tell or say what I did wrong and everything like that, so I’ll correct it, so I think it helps me with my spelling.

Doug believes that he would not feel any “less cool or anything” without access to SNTs. He believes that it would not influence his peers’ feelings towards him, as some of his friends “don’t even have cell phones or Facebook.”

CFSEI-3 results. Doug's scores on the adolescent version of the CFSEI-3 (Battle, 2002) suggested that he had below average academic self-esteem, average general and social self-esteem score, and above average parental/home and personal self-esteem scores.

There are two additional scores collected. The GSEQ reflects the participant's overall self-esteem. Doug scored 107 (68th percentile) on the GSEQ, suggesting that his self-esteem was within the average range. Doug scored 2 on the Defensive Score indicating that his responses were valid.

Summary

Overall, Doug indicated that he has many friends, he is popular, and he is a leader. Academically, he has never been placed on an IEP, but teachers have informed his mother that he struggles in reading. Doug believes he is a "decent student" and that he does not struggle with reading, especially when he finds the material interesting. He felt that his previous teachers expected him to perform poorly and, as a result, he did not put effort in his schoolwork. Doug's mother believed that it bothered him when others did not believe that he was smart. Doug also scored below average on the academic subscale of the CFSEI-3 Self Esteem test (Battle, 2002). More positively, Doug's self-esteem and confidence appeared to improve when he began secondary school. He attributed this to higher grades, teachers who liked him, and making and starting on the football team.

Doug reported that he was comfortable using technology. He used text messaging most often, but also email and Facebook. He believed that his friendships were stronger because was using SNTs and reported that using Facebook and texting increased his

confidence. He used an I-phone application to check his spelling and punctuation and gained confidence knowing that individuals were receiving messages without errors.

Cross Case Comparison

Each of these cases provides interesting and unique insights as well as points of convergence and divergence. As outlined by Yin (2009), having a multiple case study approach allows for the integration of more cases and lends to great understanding of the phenomena of interest. This next section outlines points that were similar or different across the participants.

Perceptions of Good Readers and Writers

Overall, all 3 of the participants believed they were average readers. Jill and Doug had good reader role models, while John did not. Doug and John preferred writing over reading, while Jill stated the opposite that she enjoyed reading better than writing. John said he was an okay writer, while Doug believed that he is a good writer. Jill stated that when he comes to writing, “I try”, but she finds it hard to know, “where I’m going with my story.” When it came to what each student said they struggled with most, Doug struggled with spelling, Jill sometimes had trouble doing her work because she did not understand the question, or had trouble when she saw a really big word. John had trouble with spelling and grammar and understanding big words; he had to skip over words he did not know and he does not like reading long books.

When asked if Jill believed she was a good reader, she said that she was “in the middle” and was an “okay” reader. She also believed her reading skills were improving as she was receiving tutoring. She defined a good reader as someone who reads thick books. She said her mother and one of her friends are good readers. Jill also indicated that

she was better at reading than writing. She defines a good writer as someone who writes using “a lot of juicy words and like really active.” Jill prefers traditional print-based forms of reading and writing as opposed to using technology as she was “still learning how to use the keyboard.”

John stated that he is “okay” at reading and defines a good reader as someone who knows “every word mostly in the book.” He indicated that he sometimes gets frustrated when he is reading a book and that he skips over words difficult words. When asked if he knows anyone who is a good reader, he said, “not really.” He believed he was an “okay” writer and could not provide the name of an individual that he believed was a good writer. He defined a good writer as someone who knows how to write every word. John said he finds it “easy” to complete reading and writing assignments, even though he receives an IEP at school and his mother indicated that he struggles with reading comprehension. John prefers writing over reading. He also prefers reading and writing using technology over print-based formats.

Doug stated that he was a “decent” reader. He defined a good reader as someone who does not struggle and can read fluently. He said that most of the time he can read fluently but qualified that, “I do struggle with some things, but I think that ties into my spelling.” He said his mother is a good reader. He claimed he is good at writing, and likes to write. He stated he is a better writer than reader. He said a good writer is someone who puts in a lot of detail, they “don’t just put in what needs to be there, but they put above and beyond.” Doug said he normally completes his assignments by handwriting first and then typing. He also admitted he tends to get distracted when typing because, “I’ll have a

million other things going on with the computer.” He preferred to read and write using the computer versus traditional print.

Students Understand They Are Academically Different

All 3 of the participants seemed to understand that they were not the “smartest kids in class” but also appeared comfortable with this knowledge. They also all claimed they were “good” or “decent” students, not worried about their grades. (Doug indicated that he could do better in school if he wanted to try harder. Jill thought she was improving in reading because she recently started working with a tutor). The idea that the participants did not worry about their grades was contradicted by all three of their parents who stated that their children are often upset by their low grades. These parents believed that their children’s confidence and self-esteem are negatively impacted because of their academic struggles.

Social Status

Even though the participants have trouble academically, most indicated that they were accepted by their peer group. Specifically, Doug and Jill indicated that they had many friends. While John indicated that he does not have a lot of friends, his mother stated that he is “well-liked, with a variety of friends.” Jill reported to be “in the middle” and explained that you need to be a bully to really be popular. Thus, all participants perceived that they were accepted by their peers socially.

However, participants’ parents perceived connections between their children’s social interactions and academic performance. For example, John’s mother explained that he “doesn’t fit in totally at school” and believed that his academic performance influenced how his peers viewed him. Doug’s mother also reported a connection between

social acceptance and good academics. She explained that while Doug was popular, he was “hesitant” at school in order to avoid being “frowned upon” by friends. Contrarily, Jill’s mother does not believe that her daughter’s performance in school was connected to how she was viewed by her peers.

Self-Esteem and Perceptions of Self

All 3 of the participants completed a self-esteem test. The CFSEI-3 (Battle, 2002) measured the students’ self-esteem in several different areas, as well as provided an overall self-esteem score. Overall, there was no individual area where all 3 of the participants showed to have the same level of self-esteem.

According to the scores, Jill demonstrated average self-esteem in all categories. Doug’s self-esteem was found to be average in two categories (general and social self-esteem), above average in one (parental self-esteem), and below average in another (academic). It is worth noting that this was the only below average score reported across all participants. John’s self-esteem was assessed as average in two categories (academic and parental), and above average in the remaining two areas (general and social). Doug and John reported that individuals’ academic performances defines them while Jill indicated that this was not the case.

Jill and Doug both felt they were more successful with different teachers and at different schools. This new academic success resulted in a boost to their self-esteem. Clearly teacher expectations and influence played a role in the participants’ self-perception. In Jill’s case, not being selected as a class helper, or to present her work in front of the school, made her feel less smart than her peers. At the same time, Doug felt that the teachers at his old school expected him to fail and, therefore, he felt there was no

point in trying, but that his new teachers liked him and that that helped. Both Jill and Doug stated that they liked their new teachers and schools.

Differences in Technology Use

All 3 of the participants, despite their age differences, used text messaging and emailed. Doug and John also used Facebook, while none of the participants blogged, used MySpace, or Twitter.

John used SNTs to email, send text messages, and for Facebook. He used it primarily to communicate and make plans with his friends. He believed he can maintain better friendships because he uses SNTs. John also used Facebook to help him academically when he has questions about his homework.

Doug used SNTs to Facebook, email, and text message. He indicated that text messaging was his preferred technology, reporting that he texted for up to 10 hours one day. He used technology throughout the day to connect with friends and make plans. He also reported that using SNTs strengthens existing friendships, and helps to develop new relationships that otherwise might not exist without the use of technology. Jill also used SNTs to email and text message. She is a casual user, about once a week for social purposes to contact mainly family and sometimes friends.

Overall, Doug stated that he used SNTs a lot (more than once a day), while Jill and John used SNTs often (once a week). This could be because Doug was the oldest participant at almost 14 years old, while John was 12 and Jill was 9 years old. Jill was the most infrequent Social Networking Technology user, and this may be attributed to her younger age as well as less access to technology and less friends using to communicate with. None of the participants blogged, used Twitter, or MySpace.

Students' Confidence in Using Technology

Jill used the technologies that she had access to and that both of her parents had introduced her to and taught her to use. Doug enjoyed using the technology primarily to better his friendships, and felt comfortable with his ability and usage. John felt comfortable with his abilities, and enjoyed using technology to primarily connect with his friends as well. Overall, the participants indicated that they felt comfortable using the technologies of their choice.

For instance, Jill explained why she preferred emailing over text messaging, “not so much of the texting because I haven’t been doing it that long.” Jill is only 9 years old, so her age and spelling abilities may be a factor in her choice of SNTs. Jill seemed to be more technologically advanced than some of her peers and she reported that she “sometimes helps my friends” with their usage.

Doug was very comfortable using SNTs since grade 6. He said he usually has to help his parents and friends with SNTs. John is also comfortable using SNTs; he rated his abilities an 8 out of 10, while Doug says his abilities are a 10 out of 10. John indicates that he gets excited when new technologies come out and says there is no technology that he feels awkward using. The age of the participants seemed to correlate to their comfortable level, as Jill was the youngest and felt the least unsure of using technology, and the oldest participant, Doug, clearly felt the most confident.

Parental Support for Technology

All three of the participants’ parents believed that it was important that their child be able to use technology. For instance, Jill’s mother and father allowed her to use their phone or computer to email and text since she did not have her own. Her mother set up an

email account for her and showed her how to use it, in part, to help her practice reading and writing. She hoped that using technology would help Jill “because I’m hoping that she’ll be aware of spelling and her grammatical sentences stuff for emailing so that she’s not being judged by friends.”

All three parents also reported to be comfortable or “an expert” with using technology. In the cases of Doug and John, participants and their parents assisted each other with different aspects of technology usage. This was not the case for Jill whose mother was more knowledgeable about technology. The parents also claimed that their child’s usage was monitored, although inconsistencies between participants’ responses suggested that it was difficult to completely monitor the child’s usage. For example, John’s mother reported that he never emailed, yet John reported that he emailed once a week. She believed that he used SNTs less than his friends, while he reported “more.” John’s mother reported that she monitored his texting and Facebook usage, limiting his technology usage to a half hour a day with the computer kept in a central location in the house. Doug’s mother indicated that she required her son’s phone and password to track his text, Facebook, and email messages daily.

How Technology Helps Them

Participants indicated that using SNTs helped them develop better relationships with friends and/or family. Jill stated that her friendships would not be as strong without technology as her family moved and she is switching schools. She explained that using SNTs allowed her to stay in touch with her old friends. Using SNTs also allowed her to stay in contact with family as she was never with both parents at the same time since they are divorced. She also has an aunt who lives overseas, so using technology allows her to

stay in touch with her. However, she does not feel that she necessarily “fits in” any better with her peers because she is using SNTs perhaps because many of her friends, who are also entering grade 4, do not use SNTs.

Doug also stated that using SNTs helped strengthen existing friendships and develop new ones. He believed that if he could not text message he would be “out of the loop” with his friends. Doug reported that using SNTs boosted his self-confidence, as there were people throughout the day that wanted to talk to him, “it’s kind of like a boost... yeah, knowing that someone wants to talk to you.” John, who does not think he is as popular, believed that the popular students used SNTs more than him. He believed that using SNTs helped him fit in better.

The two oldest participants found SNTs helped them fit in better with peers, and that could be because they had friends old enough to use the technologies themselves, while many of Jill’s friends did not. While SNTs helped them socially, the two oldest participants also found that SNTs could help them academically as well, and to improve their academic self-esteem.

For example, John stated that sometimes he used Facebook to get support with his homework. John said that he felt “good” when using SNTs and he preferred to use technology over pen and paper forms of writing because there is “no right or wrong...its’ more acceptable...spelling, grammar and context do not really matter.” He indicated that no one criticized his spelling while use SNTs. Doug believed that using SNTs improved his spelling as the spell checker required him to correct his errors.

John said he would enjoy reading and writing more if it could all be done on the computer or through SNTs because “it’s not as hard because there are not as many big

words.” Doug agreed with John that he would be not only more inclined to do his homework if he could do it through technology such as text messaging. He also believed he would perform better as he could focus on expressing his idea rather than feeling self-conscious about his spelling. Jill, however, believed that it was easier and faster to write by hand as she was not very comfortable using the keyboard yet.

Overall, the participants felt that they were average students and average readers, and most believed they were decent writers. While the students all stated that their poor grades did not bother them, their parents all indicated otherwise. On the CFSEI-3 (Battle, 2002) self-esteem test, however, all 3 of the participants tested to have overall average self-esteem. Most of the participants stated that using SNTs helped them feel more confident both socially and academically.

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

The purpose of this study was to gain a better understanding of the experiences and perceptions of students using SNTs such as text messaging, emailing, blogging, Facebook, MySpace, and Twitter. Specifically, the intent was to gather insight into students' use and perceptions of SNTs as they connected to their beliefs about reading, reading ability, and self.

Researchers have demonstrated that students with reading difficulties tend to have lower self-esteem (Harter & Pike, 1984; Shaywitz, 2003) and that their peers view them less favourably than other children (Kuhn & Wiener, 2000; Stiliadis & Wiener, 1989). The question addressed in this study was whether the use of SNTs could help to promote a more positive perception of self among students who experience reading or writing challenges.

Methodological Summary

In order to facilitate this qualitative study, the researcher used a collective case study design (Thomas, 2011), using convenience sampling to gather 3 participants between the ages of 8-13 who were experiencing reading difficulties (Neuman, 1997). A collective case study refers to a study in which multiple cases are described and compared to provide insight into an issue (Stake, 1995). Case studies provide one of the best bridges “to rich, qualitative evidence to mainstream research” (Eisenhardt & Graebner, 2007, p. 25). This collective case study model allowed the researcher to analyze individual cases and then assess points of convergence and divergence. This approach also emphasized commonalities between participants' perceptions of self and the possible links between self-esteem, reading ability, and using SNTs.

The data collection process included surveys, individual interviews, and documents. The use of multiple data collection methods reflected an attempt to secure an in-depth understanding of the phenomena in question (Denzin & Lincoln, 1998). This type of data collection is otherwise referred to as methodological triangulation, and builds checks and balances into the design “aimed at increasing the strength and rigor of an evaluation” (Patton, 1987, p. 60).

Results of Findings

All of the participants indicated that they were not worried about their low grades. They realized they were not the “smartest kids in the class” but indicated that they were “okay” with this situation. Two of 3 participants indicated that how they performed in school did not define them as persons, while 1 participant believed that it did. Interestingly, the participants’ parents indicated that their children did care about their grades. When asked if they were good readers, all 3 students said that they were “decent” or “okay” readers. Two of the participants indicated that their parents served as role models of “good readers,” whereas the remaining participant indicated that he did not know a good reader.

The findings of this research study also indicated all three of the subjects demonstrated average or above average self-esteem as indicated by their performance scores on the CFSEI-3 (Battle, 2002). There was only one category in which 1 participant demonstrated a “below average” self-esteem score, but his overall score still measured him to have average self-esteem. Two of the 3 students stated that they did well socially and had many friends. However, one of those participant’s mother, qualified that her son was afraid to “try hard” in school in case he failed in front of his friends. The third

participant felt he was not “popular” and did not know why. His mother believed that his poor academic performance was a casual factor here.

Most of the participants endured some form of negative experience in school. Jill experienced bullying. She also felt her teacher was telling her she was not as academically competent as her peers as her teachers did not select her to be a class helper or to present her work in front of the school. Doug believed his teachers did not believe in him and questioned why he should put forth academic effort. The teachers’ apparent image of Doug as a poor learner seemed to become a self-fulfilling prophecy. Leigh (1983) found that, “labels may serve as self-fulfilling prophecies because of lowered expectations among parents and teachers,” and that children who are labelled may then have lowered self-concepts (p. 2). This finding seemed to support Doug’s experience. John indicated he is not very popular and did not know why.

All 3 students suggested at some point in the research study that they were comfortable using SNTs. All of their parents reported themselves to be comfortable users or even expert users when it came to SNTs, and all parents agreed that it was important for their children to learn how to use technology. In at least one case, a parent encouraged her child to learn how to use technology in an effort to help improve the child’s writing and reading skills.

Discussion

Lewis (1999) and Lynch (2002) found that competence in literacy has a considerable impact on the development of positive self-perceptions (as cited in Feiler & Logan, 2007). In their study examining links between students’ self-perception, achievement motivation, and academic achievement, they found that “students’ self-

perceptions had strong influences on achievement motivation and study and organizational skills. Students who had more internal attribution styles were more likely to have more positive self-perceptions about their mathematics and verbal skills” (Clemons, 2008, p. 7).

Other researchers have also identified a link between self-perception and academic success, with students with more positive self-perceptions being more likely to demonstrate high achievement motivation and strong study skills relative to students with lower self-perceptions (Carr et al., 1991; Meece et al., 1990; Pintirch & DeGroot, 1990; Pintrich & Garcia, 1991). Harter and Pike (1984) reported that “children who have been held back a grade for academic reasons reported lower perceived cognitive competence than those experiencing normal promotion” (p. 1979). Shaywitz (2003) reported that academic struggles result in continuous assaults on a students’ self-worth, “there is an erosion of self esteem that accrues over the years as a child struggles to read” (p.120). Further, a study by Chapman and Tunmer (2003) supported this research, finding that students with reading difficulties tended to develop negative reading related self-perceptions.

Somewhat unexpectedly, the participants with reading difficulties in this study demonstrated average or above average self-esteem scores as measured by their performance on the CFSEI-3 (Battle, 2002). Indeed, 2 of the participants (Jill and Doug) elaborated during their final interviews that they were experiencing even greater feelings of success since beginning in their new schools, and that they were achieving higher marks and were feeling more confident and successful. It is plausible to assume that if

these tests were readministered at the end of this research period, these 2 participants may have scored even higher on the CFSEI-3 (Battle, 2002).

It is also important to consider that John's Defensiveness Score on the CFSEI-3 (Battle, 2002) indicated that he may not have been disclosing his true feelings during his test, or that he may have tried to provide what he perceived to be correct answers. This response pattern negatively affected the validity of his self-esteem test scores. This may also bring into question, then, the validity of his other responses including the interviews and time sheet documents. Perhaps the CFSEI-3 (Battle, 2002) could be an indication then that John may have answered other questions as he thought he should have as well, thus, not disclosing his honest feelings.

Doug and Jill's results do appear contradictory to prior research that suggested struggling readers would have low self-esteem (Kuhne & Wiener, 2000; Stiliadis & Wiener, 1989). Harter (2000) reported that there are five domains in which children 8-12 years old base their self-esteem; their scholastic competence, athletic competence, peer likability, physical appearance, and behavioural conduct. Those with reading difficulties tend to feel lacking in at least two of these categories, (scholastic competence and peer likability) and, in some cases, behavioural conduct (Harter, 2000). However, the participants in this research scored well in those two categories; scholastic competence and peer likability. (The CFSEI-3 did not measure all of the specific five domains that Harter listed above). That is, they did not feel that they were lacking in either of these categories as suggested by Harter's research.

Perhaps these findings varied from established literature because this sample of participants coincidentally happened to be unique, in that they all felt "good about

themselves.” However, this new study could also suggest that researchers have been relying on the same tired definition of “average.” Perhaps while the commonly accepted definition of “average” has stayed the same, current students are finding new ways to identify themselves and normative behaviour. This in part would explain why the participants did not express great concern about their grades or how they might be viewed as a result of these grades. This finding could also suggest that parents are not in tune with their children’s feelings and believed that their children were upset by their low grades. Alternatively, this finding could also suggest that the participants felt positive about their overall academics and did not focus on their reading challenges. Or finally, the findings could also indicate a discrepancy in the nature of the CFSEI-3 test (Battle, 2002), while Battle claims his instrument tested shows a “high degree of reliability” and “strongly suggests that the inventory possesses little test error and that users can have confidence in results” (p. 26); as in many tests, it is often impossible to guarantee 100% results from use of a specific instrument.

Knight (1990) found a direct link between one student’s self-esteem and improved academic performance. She followed grade 1 students who failed the reading comprehension portion of a prepracticum reading test. These same students were also evaluated as having low self-esteem. However, after completing 12 weeks of remedial writing instruction, students were found to have improved reading comprehension scores and improved self-esteem. In other words, improving students’ writing skills also seemed to increase their comprehension skills and self-esteem.

The results of this research study also support Knight’s (1990) findings. After Jill and Doug entered the next grade at a different school, they both reported achieving

higher academic success and grades. Simultaneously, they both stated that they experienced greater self-esteem. These findings correspond with Knights' (1990) findings that improved academic success corresponds with improved self-esteem.

This research found that the use of SNTs was a positive experience for participants in a variety of ways. Doug and John text messaged, emailed, and used Facebook, while Jill texted and used email (she did not use Facebook – most likely due to her young age). Interestingly, none of the participants used MySpace, blogs, or Twitter. Again, this usage pattern could reflect the participants' relatively young age. Consider that Twitter, the newest of those technologies, is most popular with people older than primary school. As according to a Pew Study (PandoDaily, 2012), the biggest Twitter users are 18-29 year-olds, followed by 30-49 year-olds.

These participants found the use of SNTs beneficial in a number of ways. For example, the students with reading difficulties, who were otherwise insecure about their academic abilities, found it beneficial to use technology to support their academic efforts. They enjoyed using the technology, in part, because their spelling and grammar mistakes were corrected. In this way, they avoided being singled out by their peers. The students indicated that using SNTs could aid their academic performance and boost their academic self-esteem.

The literature (Aphex, 2005; Cesarini, 2008; Plester et al., 2008, Pritchard, 2007; Withrow, 2004) also indicates that students can benefit academically from using SNTs. For example, Plester et al. (2009) commented about the freedom found from regulated orthographic and spelling conventions in defaulting to phonological coding, or, in other words, using abbreviations found in text messaging “could yield an increase in exposure

to text for poorer readers, and improve motivation to engage with written communication without the constraints of school expectations” (p. 147).

Such comments are consistent with the experiences of at least one classroom teacher who relied on SNTs to promote students’ academic achievements. In this classroom, students were instructed to email their responses about literature, such as *The Great Gatsby* (Fitzgerald, 1925), to an assigned partner. The teacher also established a blog to encourage students to dialogue while completing homework. Students performed better on their homework activities and appeared to be more engaged in their work as a result of using these technologies (Kitsis, 2008).

John highlighted that he used Facebook to reach out to friends for academic support when he had trouble with assignments and Doug found SNTs helped to improve his spelling and grammar, but the participants also found that using SNTs made them feel better about themselves, socially as well. John and Doug both found that using SNTs bolstered their social self-esteem and helped create new friendships and strengthen existing ones. In this way, using SNTs extended the degree to which participants were liked by their peers as well as their ability to “fit in.”

Burgess (2009) stated that social networking acts as a form of important social support. This social networking can create bonds and bridge new friendships. For students with reading disabilities who tend to be viewed less favourably with their peers, this new form of networking then could also act a social “cushion” helping them to build friendships and, therefore, self-esteem. Burgess also argued that online social networking can allow anonymity through the assumption of a virtual identity, which, for shy students, or those afraid of being teased, may be comforting and a way to receive quiet emotional

support and virtual friendship. Austin (2008) wrote that, “our creativity surges when opportunities for maintaining human contact present themselves” (p. 104).

While using technology and SNTs could assist in the classroom, the use of SNTs socially has automatic appeal particularly for young people (Hawk et al., 2008; Nikirk, 2009; Plester et al., 2008; Turner, 2009). This is especially true for those students who tend to have a lower self-esteem, or who are seeking validation or support, such as students with reading difficulties (Steinfeld, Ellison, & Lampe, 2008). Steinfeld et al. found a connection between the usage of Facebook and a bridging of social capital, in other words, individuals with lower self-esteem gained more from their use of Facebook in terms of bridging social capital than those participants who had higher self-esteem. According to Steinfeld et al., students with reading difficulties can benefit from using SNTs such as Facebook.

While we know that young people are using technology at an increasing rate, there is still a gap in literature studying the usage of SNTs (especially text messaging) by younger students, “research to date has focused on adolescents and young adults who have already learned to read and write standard English to acceptable levels of achievement” (Plester et al., 2008, p. 138). By researching the relationship students with reading difficulties have with SNTs, their use of SNTs, and their concept of self with and without the use of SNTs, we may better understand the impact these technologies have on their self-image. This research may also support the exploration of how perceptions of self compare between students with and without reading difficulties as they use SNTs. It is vital to understand students and their relation to SNTs since technology is the newest form of literacy and the future classroom. As Withrow (2004) stated, “the truly

disadvantaged learner in the twenty-first century will be the learner without technology”
(p. 50)

Implications for Practice

This research found that the use of SNTs made the majority of participants feel better about themselves and, in some cases, increased their self-esteem. The participants indicated that using SNTs helped them academically and socially as well. John felt he was able to socialize and fit in better with his peers because he would not be criticized for being a poor speller and that no one would judge his bad grammar. He stated that he was more accepted by his peers. Using SNTs made Doug feel better about himself because it strengthened friendships and boosted his confidence and also helped him improve his spelling, he found. If SNTs can be useful tools academically for students who have reading difficulties, educators and parents should explore the positive academic implications and role that the use of such technology could have on their students in the future.

Additionally, this research is in alignment with prior literature that stated that students who have lower self-esteem can gain self-esteem, or social capital, through their use of technology (Steinfeld et al., 2008). There is limited research on the usage of SNTs increasing students’ perception of self. Understanding this issue better would have major implications for students’ feelings of self-worth and potential success, particularly those with lower self-esteem. Furthermore, this research could also help future researchers understand how SNTs assist students academically. Therefore, this research can be used to help verify that using SNTs can help students with reading difficulties achieve social

and academic success. Further research also should explore if this trend might be extended to students without reading difficulties as well.

This research also calls into question whether or not students with reading difficulties have lower self-esteem. This study's findings were contrary to past research studies, suggesting that more research should be completed to further explore students with reading difficulties, perceptions of reading, and self.

Implications for Theory

The findings in this research seemingly have refuted the theoretical basis used in this study. Previous research suggests that students with reading difficulties tend to have lower self-esteem (Carr et al., 1991; Feiler, & Logan, 2007; Meece et al., 1990; Pintrich & DeGroot, 1990; Pintrich & Garcia, 1991), yet, in this research, the participants demonstrated average self-esteem and stated that they had many friends. Although their parents stated otherwise, and reported that their children's low grades made them "feel bad," the participants claimed that low grades did not affect how they felt about themselves. These feelings seemed to hold true on at least two measures including the verbal interview and CFSEI-3 (Battle, 2002) self-esteem test. The implications of these findings are that further studies should be done to explore why and how students with reading difficulties' perception of self are improving and, further, if all students' perception of self and what "average" is, is changing.

The findings also help extend our understanding of perceptions and use of SNTs. All of the participants agreed that SNTs helped them connect better with their friends socially, and, as literature has suggested, some of the students concurred that the technology could also help them academically (Bennett, 2001; Lewin, 2009, as cited in

Turner, 2009; Plester et al., 2009; Wheeler & Swords, 2006). Although the students in this research already had average self-esteem, they reported that using SNTs helped their self-esteem. The implications for this are significant, including: To what extent can these technologies improve the lives of students? Further research should also be done, to explore if SNTs can improve the self-esteem of all students who use it, not just those with reading difficulties. The use of such technology may improve the quality of life of students by improving their self-esteem.

Limitations

One limitation of this study was the small sample size. While a cross case comparison of 3 participants provided a rich source of data, a larger sampling could have offered additional insights into this study. As well, there was no consideration of participants' sociocultural backgrounds (e.g., race, ethnicity, gender, socioeconomic status) as part of this study. Future studies may compare students with reading difficulties belonging to middle to high SES backgrounds to those of lower SES backgrounds with respect to usage and access to SNTs. In addition, future studies should explore other sociocultural issues such as gender and race. For example, exploring whether girls and boys perceive and use SNTs differently and whether such usage affects their self-esteem differently. Similarly, future studies can explore whether students belonging to different ethnicities have different experiences using SNTs.

Another limitation of this study may involve any biases or assumptions that I brought forward as a researcher. While I do text message and email, I have never blogged, used MySpace, or Twitter, and it is only recently that I have felt comfortable enough to begin using Facebook. As a former news reporter, I have completed several

reports exploring the negative implications of Facebook with respect to individuals' privacy. However, I also recognize that technology is the face of the future and have chosen to embrace it. I elected to attempt to understand how young people can use SNTs beneficially. I also believe that by understanding technology we will be best able to monitor students' use of it and, thus, best able to help foster and support growth and success through technology in the future.

Conclusion

I understand that, "building self-esteem is essential for later success" (Shaywitz, 2003, p. 301) and that a poor perception of self has damaging and long lasting effects. The findings of this research indicate that students with reading difficulties do not necessarily have poor self-esteem, as prior research has suggested (Carr et al., 1991; Feiler, & Logan, 2007; Meece et al., 1990; Pintrich & DeGroot, 1990; Pintrich & Garcia, 1991). These findings also suggest that further research needs to be completed exploring how SNTs can be used by all students to help improve their academic and social self-esteem. Technology is the way of the future and educators and other adults are responsible for providing all students with opportunities to engage with Social Networking Technologies.

References

- Alleyne, R. (2011, April). *The young generation are 'addicted' to mobile phones*. The Telegraph. Retrieved from: <http://www.telegraph.co.uk/technology/8458786/The-young-generation-are-addicted-to-mobile-phones.html>
- Aphek, E. (2005, April). *Digital, 'highly connected' children: Implications for education*. Plenary talk at the seeing, understanding, learning in the Mobile Age Conference. Budapest, Hungary. Retrieved from <http://www.fil.hu/mobil/2005/Aphek.pdf>
- Austin, W. W. (2008). Text messaging: Rhetoric in a new keypad. In B. Hawk, D. M. Rieder, & O. Oviedo (Eds.), *Small tech: The culture of digital tools* (pp. 104-106). Minneapolis, MN: University of Minnesota Press.
- Barker, I. (2007). Txts r gr8 but not in exams. *The TES*. Retrieved from: <http://www.tes.co.uk/article.aspx?storycode=2341958>
- Battle, J. (2002). *Culture free self-esteem inventories (CFSEI-3)*. Austin, TX: Pro Ed.
- Bennett, J. (2001). Ne1 4 txt spk. *The TES*. Retrieved from: <http://www.tes.co.uk/article.aspx?storycode=344558>
- Bonsor, K. (n.d.). In how computer clothing works. *How Stuff Works*. Retrieved from: <http://computer.howstuffworks.com/computer-clothing.htm>
- Brubaker, R. G. (2000). Self-concept. In C. R. Reynolds & E. Fletcher-Janzen (Eds.), *Encyclopedia of special education* (2nd ed., Vol. 3, p. 1610). New York, NY: Wiley.
- Burgess, K. B. (2009). Social networking technologies as vehicles of support for women in learning communities. *New Directions for Adult and Continuing Education*, 122, 63-71.

- Burka, P. (2004). Incomplete. *Texas Monthly*, 32(10), 10-14.
- CADDAC. (n.d.). *Central auditory processing disorder (CAPD)*. Retrieved from: <http://www.caddac.ca/cms/page.php?166>
- Carr, M, Borkowski, J. G., & Maxwell, S. E. (1991). Motivational components of underachievement. *Developmental Psychology*, 27, 108-118.
- Cesarini, P. (2008). I am a DJ, I am what I say: The rise of podcasting. In B. Hawk, D. M. Rieder, & O. Oviedo (Eds.), *Small tech: The culture of digital tools* (pp. 98-100). Minneapolis, MN: University of Minnesota Press.
- Chapman, J. W. (1988a). Cognitive-motivational characteristics and academic achievement of learning disabled children: A longitudinal study. *Journal of Educational Psychology*, 80, 357-365.
- Chapman, J. W., & Boersma, F. J. (1980). *Affective correlates of learning disabilities*. Lisse, The Netherlands: Swets & Zeitlinger.
- Chapman, J. W., & Tunmer, W. E. (2003). Reading difficulties, reading-related self-perceptions, and strategies for overcoming negative self-beliefs. *Reading & Writing Quarterly*, 19, 5-24.
- Clemons, T. L. (2008). Underachieving gifted students: A social cognitive model. *National Research Center on the Gifted and Talented* (pp. 110).
- Coiro, J. L. (2003). Reading comprehension on the Internet: Expanding our understanding of reading comprehension to encompass new literacies. *The Reading Teacher*, 56, 458-464.
- Community-University Partnership for the Study of Children, Youth, and Families (2011). *Review of the culture-free self-esteem inventories*, (3rd ed.; CFSEI-3).

Edmonton, AB.

- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). London, UK: Sage.
- Cox, T. (2000). *Combating educational disadvantage: Meeting the needs of vulnerable children*. London, UK: Falmer Press.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Merrill Prentice Hall.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (1998). *Collecting and interpreting qualitative materials*. Thousand Oaks, CA: Sage.
- Donahue, P. L., Finnegan, R. J., Lutkus, A. D., Allen, N. L., & Campbell, J. R. (2000). *The nation's report card: Fourth-grade reading*. Retrieved from: <http://nces.ed.gov/nationsreportcard/pdf/main2000/2001499>.
- Duhaney, D. C., & Duhaney, L. M. G. (2000). Assistive technology: Meeting the needs of learners with disabilities. *International Journal of Instructional Media*, 27(4), 393-401.
- Durlak, J.A. (1995). *School-based prevention programs for children and adolescents*. Thousand Oaks, CA: Sage.
- Drucker, J. (2008). Digital provocations and applied aesthetics: Projects in speculative

- computing. In B. Hawk, D. M. Rieder, & O. Oviedo (Eds.), *Small tech: The culture of digital tools* (pp. 150-165). Minneapolis, MN: University of Minnesota Press.
- Eisenhardt, K. M., & Graebner, M. G. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50(1), 25-32.
- EMarketer. (2012). *Where in the world are the hottest social networking countries?* Retrieved on from: <http://www.emarketer.com/Article.aspx?R=1008870>
- Feiler, A., & Logan, E. (2007). The literacy action project (LEAP): Exploring factors underpinning progress with literacy for a child in his first year of school. *British Journal of Special Education*, 34(3), 162-169.
- Fitzgerald, S. F. (1925). *The Great Gatsby*. New York, NY: Charles Scribner's Sons.
- Fletcher, J. M., Lyon, G. R., Fuchs, L. S. & Barnes, M. A. (2007). *Learning disabilities: From identification to intervention*. New York, NY: The Guilford Press.
- Focus on Effectiveness. (n.d.). *Messaging Shakespeare*. Retrieved from <http://www.netc.org/focus/examples/messag.php>
- Gajria, M., & Salend, S. J. (1995). Homework practices of students with and without learning disabilities: A comparison. *Journal of Learning Disabilities*, 28, 291-296.
- Gardner, H. (1999). Reflections on multiple intelligences: Myths and messages. In A. Ornstein & L. Behar-Horenstein (Eds.), *Contemporary issues in curriculum* (2nd ed.; pp. 235-242). Needham Heights, MA: Allyn & Bacon.
- Glaser, B. G., & Strauss, A. (1967). *Discovery of grounded theory. Strategies for qualitative research*. Piscataway, NJ: Sociology Press.

- Gregory, E., & Williams, A. (2004). Living literacies in homes and communities. In T. Grainger (Ed.), *The RoutledgeFalmer Reader in language and literacy*. London, UK: RoutledgeFalmer.
- Gunning, T. G. (2006). *Assessing and correcting reading and writing difficulties*. Boston, MA: Pearson Education.
- Hale, C., & Scanlon, J. (1999). *Wired style: Principles of English usage in the digital age*. New York, NY: Broadway Books.
- Hannon, P. (2004). The history and future of literacy. In T. Grainger (Ed.), *The RoutledgeFalmer Reader in language and literacy*. London, UK: RoutledgeFalmer.
- Harley, D, Winn, S., Pemberton, S., & Wilcox, P. (2007). Using texting to support students' transition to university. *Innovations in Education and Teaching International*, 44(3), 229-241.
- Harter, S. (2000). Is self-esteem only skin-deep? The inextricable link between physical appearance and self-esteem. *Reclaiming Children and Youth*, 9(3), 133-138.
- Harter, S., & Pike, R. (1984). The pictorial scale of perceived competence and social acceptance for young children. *Child Development*, 55(6), 1969-1982.
- Hawk, B., Rieder, D. M., & Oviedo, O. (2008). *Small tech: The culture of digital tools*. Minneapolis, MN: University of Minnesota Press.
- Hecker, L., Elkind, J., Elkind, K., & Katz, L. (2002). Benefits of assistive reading software for students with attention disorders. *Annals of Dyslexia*, 52, 243-72.

- Hemphill, L., & Tivnan, T. (2008). The importance of early vocabulary for literacy achievement in high-poverty schools. *Journal of Education for Students Placed at Risk, 13*(4), 426-451.
- Hinton, S. E. (1967). *The outsiders*. New York, NY: Penguin Putnam.
- IPSOS. (2011). *Canada's love affair with online social networking continues*. Retrieved from: <http://www.ipsos-na.com/news-polls/pressrelease.aspx?id=5286>
- Judge, S. (2006). Constructing an assistive technology toolkit for young children: Views from the field. *Journal of Special Education Technology, 21*(4), 17-24.
- Kahn, R., & Kellner, D. (2008). Technopolitics, blogs, and emergent media ecologies: A critical/reconstructive approach. In B. Hawk, D. M. Rieder, & O. Oviedo (Eds.), *Small tech: The culture of digital tools* (pp. 22-37). Minneapolis, MN: University of Minnesota Press.
- Kaiser Family Foundation. (2010). Generation M2: Media in the lives of 8-to 18-Year Olds. Retrieved from: <http://www.kff.org/entmedia/mh012010pkg.cfm?RenderForPrint=1>
- Kitsis, S. M. (2008). *The facebook generation: Homework as social networking*. *English Journal, 88*(2), 30-36.
- Knight, J. L. (1990). *Improve reading comprehension and self-esteem through the use of the writing process* (Unpublished doctoral dissertation). Nova University, Australia.
- Kuhne, M., & Wiener, J. (2000). Stability of social status of children with and without learning disabilities. *Learning Disability Quarterly, 23*(1), 64-75.

- Leigh, J. (1983). Early labelling of children. *Topics in Early Childhood Special Education*, 3(3), 1-6.
- Lemire, J. (2012). Campaign donations can now be sent by text message. *New York Daily Times*. Retrieved from <http://www.nydailynews.com/news/election-2012/campaign-donations-text-message-article-1.1094111>
- Lerner, J. W. (1997). *Learning disabilities: Theories, diagnosis, and teaching strategies* (7th ed.). Boston, MA: Houghton Mifflin.
- Leu, D. J., Mallette, M. H., Karchmer, R. A., & Kara-Soteriou, J. (2005). Contextualizing the new literacies of information and communication technologies in theory, research and practice. In R. A. Karchmer, M. H. Mallette, J. Kara-Soreriou, & D. J. Leu (Eds.), *Innovative approaches to literacy education: Using the internet to support new literacies* (pp. 1-12). Newark, DE: International Reading Association.
- Lowry, L. (1993). *The giver*. New York, NY: Random House.
- Mallory, B. L., & Kerns, G. M. (1988). Consequences of categorical labelling of preschool children. *Topics in Early Education*, 8(3), 39-50.
- Maslen, G. (2006). Mobile phones improve literacy, say researchers. *The TES*. Retrieved from <http://www.tes.co.uk/article.aspx?storycode=2266400>
- Meece, J., Wigfield, A., & Eccles, J. (1990). Predictors of math anxiety and its influence on young adolescents' course enrolment intentions and performance in mathematics. *Journal of Educational Psychology*, 82, 60-70.
- Miles, M., & Huberman, A. (1984). *Qualitative data analysis: A sourcebook of new methods*. Beverly Hills, CA: Sage.

- Miller, C. C. (2008). How Obama's internet campaign changed politics. *The New York Times*. Retrieved from <http://bits.blogs.nytimes.com/2008/11/07/how-obamas-internet-campaign-changed-politics>
- Neuman, W. L., (1997). *Social research methods: Qualitative and quantitative approaches*. (3rded) Boston, MA: Allyn and Bacon.
- Nie, N., H., & Erbring, L. (2000). *Internet and society: A preliminary report*. Unpublished manuscript, Stanford Institute for the Quantitative Study of Society, Stanford University.
- The Nielsen Company. (2009). *Home internet access in US: Still room for growth*. Retrieved from: <http://www.marketingcharts.com/interactive/home-internet-access-in-us-still-room-for-growth-8280/nielsen-internet-access-household-income-february-2009jpg/>
- Nikirk, M. (2009). Today's millennial generation: A look ahead to the future they create. *Techniques: Connecting Education and Careers*, 84(5), 20-23.
- Nunnally, J. C., & Berstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.
- PandoDaily. (2012). *Who uses twitter anyways?* Retrieved from: <http://pandodaily.com/2012/06/11/who-uses-twitter-anyway/>
- Patton, M. Q. (1987). *How to use qualitative methods in evaluation*. Newbury Park, CA: Sage.
- Pintrich, P. R., & DeGroot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal or Educational Psychology*, 82, 33-40.

- Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. Maehr & P. R. Pintrich (Vol. Eds.), *Advances in motivation and achievement: Vol. 7 Goals and self-regulating processes* (pp. 371-402). Greenwich, CT: JAL.
- Plester, B., Wood, C., & Bell, V. (2008). Txt msg n school literacy: Does texting and knowledge of text abbreviations adversely affect children's literacy attainment? *Literacy, 42*(3), 137-144.
- Plester, B., Wood, C., & Joshi, P. (2009). Exploring the relationship between children's knowledge of text message abbreviations and school literacy outcomes. *British Journal of Developmental Psychology, 27*, 145-161.
- Politicians condemn exam chiefs for accepting 'text speak'*. (2006). Retrieved from: <http://www.24dash.com/news/Education/2006-11-01-Politicians-condemn-exam-chiefs-for-accepting-text-speak>
- Pritchard, A. (2007). *Effective teaching with internet technologies: Pedagogy and practice*. Thousand Oaks, CA: Sage.
- Puckett, K. S. (2004). Project ACCESS: Field testing an assistive technology toolkit for students with mild disabilities. *Journal of Special Education Technology, 19*(2), 5-18.
- Richardson, W. (2009). *Blogs, wikis, podcasts, and other powerful web tools for classrooms*. Thousand Oaks, CA: Corwin Press.
- Riley, J. (2001). The national literacy strategy: Success with literacy for all? *The Curriculum Journal, 12*(1), 29-58.

- Ritchie, J., & Lewis, J. (Eds.). (2003). *Qualitative research practice: A guide for social science students and researchers*. London, UK: Sage.
- Rogers, H., & Saklofske, D. H. (1985). Self-concepts, locus of control, and performance expectations of learning disabled children. *Journal of Learning Disabilities*, 18, 273-278.
- Salend, S. J., Duhaney, D., Anderson, D. J., & Gottschalk, C. (2004). Using the internet to improve homework communication and completion. *TEACHING Exceptional Children*, (36)3, 64-73.
- Salend, S. J., & Gajria, M. (1995). Increasing the homework completion rates of students with mild disabilities. *Remedial and Special Education*, 16, 271-278.
- Savel, R., & Munro, C. (2011). Scalpel, stethoscope, iPad: The future is now in the intensive care unit. *American Journal of Critical Care*, 20(4), 275-277.
- Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level*. New York, NY: Alfred A. Knopf.
- Shiu, E., & Lenhart, A. (2004). How Americans use instant messaging. *Pew Internet and American Life Project Report*. Retrieved from <http://www.pewinternet.org/Reports/2004/How-Americans-Use-Instant-Messaging.aspx?r=1>
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Stanovich, K. E. (2004). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. In R. B. Ruddell, & N. J. Unrau (Eds.), *Theoretical models and processes of reading*. Newark, DE: International Reading Association.

Statistics Canada. (2005). *Literacy rate fails to budge*. Retrieved from:

<http://www.statcan.gc.ca/pub/11-002-x/2005/05/13705/4155949-eng.htm>

Statistics Canada. (2007). Reading literacy fosters achievement. In *Overview 2007:*

Education, training and learning. Statistics Canada Catalogue no. 12-591-XWE, Ottawa, ON. Retrieved from:

http://www41.statcan.ca/2007/1821/ceb1821_001_e.htm

Statistics Canada. (2010). *Canadian internet use survey*. Retrieved from:

<http://www.statcan.gc.ca/daily-quotidien/110525/dq110525b-eng.htm>

Statistics Canada. (2010). *Study: Life-path outcomes associated with reading ability*.

Retrieved from: <http://www.statcan.gc.ca/daily-quotidien/110627/dq110627b-eng.htm>

Steinfeld, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: a longitudinal analysis. *Journal of Applied Developmental Psychology, 29*(6), 434-445.

Stiliadias, K., & Wiener, J. (1989). Relationship between social perception and peer status in children with learning disabilities. *Journal of Learning Disabilities, 22*(10), 624-629.

Teachers pay teachers. (n.d.). Retrieved from

<http://www.teacherspayteachers.com/Product/Macbeth-Text-Messaging-A-Fun-Activity-For-Understanding-Shakespeare>

Text messaging Canadians sent an average 2,500 texts every second in 2011, total of 78 billion (2012, April). Huffington Post. Retrieved from

http://www.huffingtonpost.ca/2012/04/13/text-messaging-canada_n_1424730.html#s741945&title=10_Germany_

Text Messaging Centre. (2009). *The growth of text messaging*. Retrieved, from:

<http://www.tmcsm.com/sms-references/the-growth-of-text-messaging-10-06-08.aspx>

Thacker, E. (2004). *Biomedica*. Minneapolis, MI: University of Minneapolis Press.

Thomas, G. (2011). *How to do your case study: A guide for students & researchers*. Thousand Oaks, CA: Sage.

Thomlinson, C. A. (2000). Reconcilable differences? Standards-based teaching and differentiation. *Educational Leadership*, 58(1), 6-11.

Turner, K., H. (2009). Flipping the switch: Code-switching from text speak to standard English. *English Journal*, (98)5, 60-65.

Underwood, T., & Pearson, D. P. (2004). Teaching struggling adolescent readers to comprehend what they read. In T. L. Jetton, & J. A. Dole (Eds.), *Adolescent Literacy Research and Practice* (pp. 135-161). New York, NY: Guilford Press.

Wheeler, R. S., & Swords, R. (2006). *Code-switching: Teaching standard English in urban classrooms*. Urbana: NCTE.

Withrow, F. B. (2004). *Literacy in the digital age: Reading, writing, viewing, and computing*. Lanham, MD: Scarecrow Education.

Yin, R. (1994). *Case study research: Design and methods* (2nd ed.). Beverly Hills, CA: Sage.

Yin, R. K. (2009). *Case study research: Design and methods*. (4th ed.). Thousand Oaks, CA: Sage.

Appendix A

Semistructured Interview Guide

Guide for initial INTERVIEW:

To Parent:

- What would you say is your child's self esteem like? (Why do you think this?)

- Does their performance in school have anything to do with how they are viewed by their peers?

- Does their performance in school have anything to do with how they view themselves?

- Do they 'fit in' at school?

- Would you say they have many friends, few friends? (why do you think this?)

- Do you let them use Social Networking Technologies such as Facebook or MySpace, blogging, emailing, twittering, or text messaging? Why or why not?

- Do you think these technologies could help or hinder your son or daughter? (Why?)

- How often would you say you use these technologies? (Which ones?)

-What would you say your comfort level is in using them (does your child know more than you about technology?)

-Do you teach your child on the computer and about Social Networking Technologies or does he/she help you?

-Are you open to learning about the newest technology that comes out, or is intimidating? (do you want your child to learn how to navigate the very newest technology as it comes out?)

To Child:

-How would you describe yourself? (Why?)

-How do you think your classmates would describe you? (Why?)

-Does how you do in school define who you are as a person?

-How would you say you fit in with your classmates? (Are you the most popular, least popular-why do you say that?)

-Do you care?

-What do you think you have to do to fit in better with your classmates?

-How does how others see you, effect how you feel about yourself?

-How you describe yourself as a student?

-How do you feel using technologies like Facebook or MySpace, blogging, emailing, Twittering, or text messaging? (Comfortable using or not?)

-When did you start learning how to use these technologies? And who taught you? (your parents, through the school, friends etc)

-Which types of technology would you say you are comfortable using? Which are you not yet comfortable with? (why?)

-How would you describe yourself as a 'user of technology'? (ie. just learning or I usually help my parents or friends)

-What is the hardest thing for you when it comes to using these technologies?

-Can you not wait to try the latest technology or application when it comes out, or do you wait until everyone else is doing it, then feel you have to try it out?

-When some new technology or application comes out, do you get excited or intimidated?

-Overall, how would you rate your ability to use Social Networking Technologies out of 10?

-How do you view traditional reading and writing? (do you enjoy it, put it off as long as you can, try and get out of doing it? Is it easy, difficult?)

-Which do you enjoy least? (reading or writing? Why?)

-When it comes to reading or writing on the computer or through Social Networking Technologies, is it a chore to do so, or do you enjoy it? (why is it different than reading or writing on paper for homework?)

-Do you think you would enjoy reading or writing more if it could all be done on a computer or through Social Networking Technologies? (why?)

-How much time do you think you spend reading and writing traditionally in comparison to how much time you spend using Social Networking Technologies?

Appendix B

Parent Questionnaire

Title of Study: Students' Use and Perceptions of Social Networking Technologies: Connections to Reading, Reading Ability and Self Perception.

PARENT QUESTIONNAIRE:

Please Note: In this study Social Networking Technologies are defined as Facebooking or MySpacing, blogging, emailing, Twittering, or text messaging.

1) What qualities would you use to best describe your child?

2) How is your child perceived by his/her classmates?

Why do you believe he/she is perceived this way?

3) Outside of the classroom, how often do you use think your child uses Social Networking Technology (such as Facebooking or MySpacing, blogging, emailing, Twittering, or text messaging)?

Seldom (Once a month or less)_____

Occasionally (Once every two weeks)_____

Often (Once a week)_____

Frequently (Once a day)_____

A lot (More than once a day)_____

4) Please now check off which technology your child uses outside of the classroom and for how long (fill in or circle all boxes that apply).

My child generally is on Facebook _____ for _____ minutes per day/week/month.

My child generally is on MySpace _____ for _____ minutes per day/week/month.

My child generally blogs _____ for _____ minutes per day/week/month.

My child generally emails _____ for _____ minutes per day/week/month.

My child generally Twitters _____ for _____ minutes per day/week/month.

My child generally text messages _____ for _____ minutes per day/week/month.

5) Do you think that your child uses Social Networking Technologies...

LESS often than their peers _____

MORE often than their peers _____

6) Explain your response.

7) Which Social Networking Technologies (Facebook, MySpace, blogging, email, Twitter, or texting) do they use the most?

Why do you think your child uses this technology the most?

8) Which Social Networking Technologies (Facebook, MySpace, blogging, email, Twitter, or texting) do they use the least?

Why do you think your child uses this technology the least?

9) Do you think your child feels comfortable using Social Networking Technologies? (please circle one)

YES / NO

If YES, why?

If NO, why not?

10) For what purposes/reasons does your child use Facebook, MySpace, blogging, email, Twitter or texting?

11) In general, do you believe that your child is accepted by his or her peers? YES / NO (please circle one)

12) Do you believe that using this technology helps your child socialize with peers/be accepted by his/her peer group?

Please Explain.

13) Do you believe that using this technology helps your child communicate better communicate with his or her peers?

YES / NO (please circle one)

14) How well does your child fit in at school?

15) How popular do you think he or she is?

How does your child's classmates' perception of him or her make your child feel?

16) Do you believe that your child is accepted by peers when using Facebook / MySpace / blogging / email / Twitter / text messaging (please circle those that apply).

17) Do you use Social Networking Technologies yourself?

YES / NO (please circle one)

If YES, which ones and how often?

Seldom (Once a month or less)_____

Occasionally (Once every two weeks)_____

Often (Once a week)_____

Frequently (Once a day)_____

A lot (More than once a day)_____

IF NO, why not?

18) Do you approve of your child using these Social Networking Technologies or not?

Please Explain:

19) How would you describe your child's self esteem?

Why?

Appendix C

Student Questionnaire

Title of Study: Students' Use and Perceptions of Social Networking Technologies: Connections to Reading, Reading Ability and Self Perception.

Please Note: In this study Social Networking Technologies are defined as Facebooking or MySpacing, blogging, emailing, Twittering, or text messaging.

1) What qualities would you use to best describe yourself as a person?

2) How do you think your classmates perceive you?

Why do you think this?

3) Outside of the classroom, how often do you use Social Networking Technology (such as Facebooking or MySpacing, blogging, emailing, Twittering, or text messaging)?

Seldom (Once a month or less) _____

Occasionally (Once every two weeks) _____

Often (Once a week) _____

Frequently (Once a day) _____

A lot (More than once a day) _____

4) Please now check off which technology you usually use outside of the classroom, and for how long (fill in and circle all boxes that apply to you).

I generally Facebook _____ for _____ minutes per day/week/month.

I generally MySpace _____ for _____ minutes per day/week/month.

I generally blog _____ for _____ minutes per day/week/month.

I generally email _____ for _____ minutes per day/week/month.

I generally Twitter _____ for _____ minutes per day/week/month.

I generally send or receive a total of _____ text messages during the time I checked off above in section 3.

5) Do you think that you use Social Networking Technologies...

LESS often than your friends _____

MORE often than your friends _____

6) WHY do you think this?

7) Which Social Networking Technologies (Facebook, MySpace, blogging, email, Twitter, or texting) do you use the most?

Why?

8) Which Social Networking Technologies (Facebook, MySpace, blogging, email, Twitter, or texting) do you use the least?

Why?

9) Do you feel comfortable using Social Networking Technologies?

If YES, please list which ones you feel most comfortable using? (Facebook, MySpace, blogging, email, Twitter, or texting)

If NO, why not?

10) For what reasons do you use Facebook, MySpace, blogging, email, Twitter or texting?

11) How does using Facebook, MySpace, blogging, email, Twitter or texting make you feel?

12) Do you fit in better with your peers when using Facebook, MySpace, blogging, email, Twitter or texting?

Explain.

13) How well do you think you fit in at school?

14) How popular are you?

How does that make you feel?

15) How much do you think that the popular kids use Social Networking Technologies?
(Facebook, MySpace, blogging, email, Twitter, or texting?)

Seldom (Once a month or less)_____

Occasionally (Once every two weeks)_____

Often (Once a week)_____

Frequently (Once a day)_____

A lot (More than once a day)_____

Appendix D

Technology Log

Technology Log instructions that will be attached to the journal I purchase for the student to record in, will read as below.

Dear participant,

Please take the time to note daily how many minutes you spend using each specific Social Networking Technology **out of school hours**, as best as you can.

Also, please write down any feelings and observations (**why** you began texting, Twittering, blogging, emailing, Facebooking or MySpacing). For example, did you use the technology to communicate about school work or for socializing? How did that make you feel? For example, did you make a new friend, fix or strengthen a relationship?

Please use attached charts,
Thank you.

TECHNOLOGY LOG week 1:

**Circle which ones used For How Many Minutes? For what
purpose did you use each?**

SAT.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
SUN.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
MON.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
TUES.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
WED.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
THURS.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
FRI.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	

TECHNOLOGY LOG week 2:

	Circle which ones used	For How Many Minutes?	For what purpose did you use each?
SAT.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____ Email_____ MySpace_____ Twitter_____ Facebook_____
SUN.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____ Email_____ MySpace_____ Twitter_____ Facebook_____
MON.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____ Email_____ MySpace_____ Twitter_____ Facebook_____
TUES.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____ Email_____ MySpace_____ Twitter_____ Facebook_____
WED.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____ Email_____ MySpace_____ Twitter_____ Facebook_____
THURS.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____ Email_____ MySpace_____ Twitter_____ Facebook_____
FRI.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____ Email_____ MySpace_____ Twitter_____ Facebook_____

TECHNOLOGY LOG week 3:

**Circle which ones used For How Many Minutes? For what
purpose did you use each?**

SAT.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
SUN.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
MON.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
TUES.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
WED.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
THURS.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	
FRI.	Texting Email Twitter	Blogging MySpace Facebook	Texting_____ Blogging_____	Email_____ MySpace_____	Twitter_____ Facebook_____	

Appendix E

Final/Exit Interview Guide

To Child

- What was your experience using technologies like Facebook or MySpace, blogging, emailing, Twittering, or text messaging? (Comfortable using or not?)
- How much do you use these technologies outside of school compared to during school?
- Did you feel like you fit in any better with your peers while using these technologies? (Can you share an incident?)
- Who were you mostly contacting?
- Would you normally be their friend at school?
- What did you mostly talk about?
- How does using these technologies make you feel? Does it make you feel any different with your peers, than when you're hanging out in class with them?
- How did you feel using the technology journal? Was it hard to write in it every day? Did you feel you were accurate? Were you open in your writing, or was it hard to be honest because you didn't want anyone to read your thoughts?
- Is there anything about yourself you would want to change? Why? (how do you think you would accomplish this?)
- How technologically savvy would you say you are?
- How does using these technologies compare to using the traditional print forms of reading and writing?
- Are you a good reader?
- What's a good reader?
- Who's a good reader?
- Where are your strengths and weaknesses?
- Are you good at writing?
- What's a good writer?
- What's a good reader or user in terms of using Social Networking Technologies?
- Are you as good as your peers using these technologies?
- How confident do you feel using these technologies compared to the traditional print forms of reading and writing?