

5-6-2013

The effects of iPads on the independent reading of high school students with learning disabilities

Jaime MacEwen

Let us know how access to this document benefits you - share your thoughts on our feedback form.

Follow this and additional works at: <https://rdw.rowan.edu/etd>

 Part of the [Special Education and Teaching Commons](#)

Recommended Citation

MacEwen, Jaime, "The effects of iPads on the independent reading of high school students with learning disabilities" (2013). *Theses and Dissertations*. 427.

<https://rdw.rowan.edu/etd/427>

This Thesis is brought to you for free and open access by Rowan Digital Works. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Rowan Digital Works. For more information, please contact LibraryTheses@rowan.edu.

**THE EFFECTS OF IPADS ON THE INDEPENDENT READING OF HIGH
SCHOOL STUDENTS WITH LEARNING DISABILITIES**

by

Jaime MacEwen

A Thesis
Submitted to the
Department of Learning Disabilities, Language, Literacy & Special Education
College of Education
In partial fulfillment of the requirement
For the degree of
Master of the Arts
at
Rowan University
April 2013

Thesis Chair: S. Jay Kuder, Ed.

© 2013

Jaime MacEwen

Abstract

Jaime MacEwen

THE EFFECTS OF IPADS ON THE INDEPENDENT READING OF HIGH SCHOOL
STUDENTS WITH LEARNING DISABILITIES

2012/2013

S. Jay Kuder, Ed.D

Master of Arts in Learning Disabilities

The purpose of this study was to determine whether or not the use of iPads for independent reading would enhance the reading motivation of ninth grade students with learning disabilities as measured by number of pages read and students' self-reported interest in reading in response to a survey. Its purpose is also to determine whether they would prefer reading on an iPad over reading traditional books. This study used a pretest-posttest group design. The participants were nineteen students in ninth grade. The participants all receive special education services in the resource center classroom. They are enrolled in an intensive reading program called READ 180. The results indicate that more students read an increased number of pages on the iPad than of traditional books. However, the average number of pages read on an iPad was less than the average number of pages read of traditional books. Students completed a survey about their experience with reading on the iPad. Thirteen of the nineteen students agreed or strongly agreed that they prefer to read on the iPad compared to traditional books.

Table of Contents

Abstract	iii
List of Figures	vi
Chapter 1: Introduction	1
1.1 Research Problem	2
1.2 Implications	4
1.3 Summary	4
Chapter 2: Literature Review	5
2.1 Reading Disorders	5
2.2 Reading Interventions	6
2.3 Technology in Education	9
2.4 21 st Century Reading and Learning	10
2.5 A Customized Reading Experience	13
2.6 Summary	16
Chapter 3: Methodology	18
3.1 Setting and Participants	18
3.2 Materials and Instruments	19
3.3 Procedure	20
3.4 Data Collection	22
Chapter 4: Results	23
4.1 Summary	23
4.2 Procedure	23

Table of Contents Continued

4.3 Results	24
Chapter 5: Discussion	27
5.1 Review	27
5.2 Implications	29
5.3 Limitations	31
5.4 Conclusion	32
References	33

List of Figures

Figure	Page
Figure 1 Reading and the iPad – Student Survey	20
Figure 2 Average Number of Pages Read	24
Figure 3 Student Survey Data – Reading Preferences	25
Figure 4 Student Survey Data – Use of iPad Features	36

Chapter 1

Introduction

Reading is often difficult for high school students with special needs.

Participation, motivation, and interest in independent reading is low. Reading is an important part of everyday life and is imperative to students' success in school. Many high school students that struggle in reading do not enjoy it and even have negative associations with reading.

Cultivating an interest in reading among high school students is valuable.

Providing students with a variety of options is one way to encourage independent reading. The ability to use technology as a means of reading is one way to provide a different option to students. Technology is an integral part of our lives and can contribute greatly to education. Many schools are beginning to use iPads as a way to integrate technology into the curriculum. These devices can be used for a variety of purposes in educational settings. Reading on electronic devices has gained popularity. Why not use it to our students' advantage?

There are several tools that make reading on an iPad easier for struggling readers. Students can change the size of the text on the iPad to show larger text, which reduces the amount of text on the screen. This can be valuable for students that are intimidated by the length of what they are being asked to read. Students can also easily access the definition of a word they don't know through the interactive dictionary. This is extremely convenient for students that would not normally make the effort to look up an unfamiliar word in the dictionary. Another helpful feature is the ability to highlight and take notes on the iPad. Students can be guided as to what they should highlight as a comprehension

strategy. Read aloud features are also available for some books on the iPad. These functional features are not the only reason struggling readers will benefit from reading on an iPad. High school students especially enjoy using technology and this can be a motivational factor.

Research Problem

This study will take place in a resource center classroom for ninth grade students with learning disabilities. Fifteen males and eight females will be participants in this study. These twenty-three students are enrolled in READ 180, an intensive reading program designed by Scholastic. The students visit three rotations each day. Independent reading is one of the rotations. During independent reading, students select a book of their choice at the appropriate Lexile level to read on their own. The Lexile reader measure tells where a student's reading ability is on the Lexile scale. The Lexile scale is a way of reporting reading ability from 0 Lexile to 2000 Lexile. The higher the number is on the Lexile scale, the higher the student's reading ability.

The independent reading rotation is scheduled for twenty minutes each day. At the conclusion of the rotation, students record the pages they read in a log and write a summary of what they read. This log is turned in each week to be graded. The teacher conducts conferences with each student about their reading selection, goals, and progress. Students read independently and continue to choose a new book each time they complete one. The number of books read throughout the year is not emphasized, the number of pages read is. It is stressed that the important thing is that they are reading for twenty minutes every day, not how quickly they finish reading a book.

One of the challenges of the independent reading component of this course is low motivation and interest on the part of the students. Many of the students do not enjoy reading because they struggle to read. Some have a negative attitude when it comes to reading books. Some students simply refuse to read and say that they hate reading. Others pretend that they are reading or avoid reading by behaving inappropriately, talking, or asking to leave the classroom. Using an iPad to read may be an incentive that will increase interest in independent reading.

Another benefit of the reading on an iPad is that students cannot see what others are reading. It can minimize the students' worry of having others see what they are reading, especially if the material is at a lower reading level. The purpose of this study is to determine whether or not iPads will help to increase this motivation.

The questions to be answered in this study:

- 1.) Will the use of iPads for independent reading enhance the reading motivation of ninth grade students with learning disabilities as measured by number of pages read and students' self-reported interest in reading in response to a survey?
- 2.) When using iPads to read independently in class, will students read more than when they only had the option to read books? Will students prefer reading on an iPad or reading a book?

This study will look at the motivation of ninth graders to read independently in class. Students will be given the option to read independently on an iPad. My hypothesis is that when students begin to read using an iPad, they will read more than they did when only reading books. The use of technology will increase motivation to read. The

advanced features of the iPad, such as increased text size, highlighting, and built-in dictionary will also make reading easier and more enjoyable for the students.

Implications

Increasing the motivation of struggling readers is a challenge for educators. This study will look at the effectiveness of technology, specifically iPads as electronic readers, on reading motivation and success. If the use of iPads is found to increase reading motivation, it can have an implication on the way independent reading is approached by educators. Schools can use this information and research to help increase the level of technology use in the classroom, specifically for reading.

Summary

Reading is essential and struggling with reading can be a major roadblock for students' success, especially at the high school level. Building and nurturing a love of reading can have a positive impact on a student's success. This study will focus on increasing students' motivation to read through the use of technology, specifically iPads as electronic readers. My hypothesis is that the use of iPads during independent reading time in class will contribute to a higher level of motivation to read and an increase in the amount of pages read by students. These findings will add to the current research on the effectiveness of electronic readers being used in the school setting.

Chapter 2

Literature Review

Reading Disorders

Reading disorders can have a detrimental impact on students' educational success and even their well being in aspects of their daily lives. Snowling and Hulme (2012) state that reading is a challenging skill that requires a range of cognitive and linguistic abilities. Students with reading disorders have difficulties in word recognition, working memory, making inferences, applying and evaluating strategies to use while reading, and comprehending text (Jitendra & Gajria, 2011). Students can achieve more by being exposed to vocabulary and by reading regularly. But how can we as teachers expect students to practice and especially enjoy reading when it is a task that can cause such frustration? Students that have significant reading difficulties in the lower grades continue to struggle as they proceed through the upper grades. Reading disorders affect a student's ability to read to learn in other subjects. For example, good readers tend to be more successful in subject areas such as science and math. It is imperative for students to learn the reading skills they need to be successful in school and in life (Melekoglu, 2011).

There are two occurring types of reading disorders. The causes, as well as the treatments of these reading disorders, are diverse. Dyslexia is when a student has difficulty decoding words and understanding the relationship between spelling patterns and the pronunciation of words (Snowling & Hulme, 2012). Students with dyslexia read slowly and with error. Dyslexia also can affect a student's spelling and writing ability. Deficits in phonological coding and impairments in verbal short-term memory are also seen with dyslexia. This decoding is the basis of learning to read. The other major

impairment is in reading comprehension. Students with an impairment in reading comprehension often can read fluently without difficulty, however are unable to understand what they have read. Reading comprehension involves accessing meanings of words and higher order thinking. Making inferences and self-monitoring are crucial skills needed for comprehending text (Snowling & Hulme, 2012).

Reading Interventions

Numerous interventions have been implemented to help students with reading disorders achieve success in reading. Estevas and Whitten (2011) state that teachers are responsible for providing a variety of methods of instruction and intervention that are effective in remediating difficulties with reading. Assisted reading with audio recordings is mentioned as one such intervention that has proven effective for students with reading disorders (Estevas & Whitten, 2011). Assisted reading occurs when students listen to an audio recording of fluent reading as they read along. Not only does this method help students increase fluency, it allows older students access to grade level text. The authors suggest using assisted reading with audiobooks to increase the effectiveness of sustained silent reading time in the classroom. The research findings related to assisted reading show that this intervention improves reading fluency and promotes comprehension for struggling readers (Estevas & Whitten, 2011).

It is the hope that by teaching strategies for coping with reading difficulty and for fostering a love of reading that these students will become life long readers and learners. Motivation can be an important factor since students show that low motivation corresponds with poor performance in reading (Melekoglu, 2011). It is also noted that fostering students' motivation to read can improve the reading achievement of students

with learning disabilities. The focus of many studies has been on struggling readers and what strategies are proven to be effective in building their confidence, motivation, and success in reading.

Reading comprehension is one of the biggest challenges students with learning disabilities face. Learning new information in most subject areas require strong reading comprehension skills that these students are lacking. Therefore, students lacking strong reading comprehension strategies are negatively affected across the curriculum. Reading skills are improved by teaching these students specific strategies for comprehending text. It gives them a framework to use when presented with new text.

One study (Stetter & Hughes, 2011) examined the effectiveness of teaching the comprehension strategy of story mapping through computer-assisted instruction. Story mapping is the process of identifying the elements of character, setting, plot, and theme in a visual representation. Story mapping is a beneficial strategy to facilitate comprehension. Most stories that students read will incorporate these elements. Knowing how to identify and relate these elements will aid in students' comprehension of the text. The subjects involved this study were nine high school students with learning disabilities. These students were receiving special education services in the areas of English and/or reading in self-contained classes. Student progress was measured through the implementation of daily quizzes, story maps, and a standardized test along with a survey identifying the students' perception of the computer-assisted instruction. The results of this investigation showed that the majority of the high school students with learning disabilities showed improved comprehension scores on the standardized test. The findings suggested that reading daily on the computer might have improved these

students' scores. The students' perception of the computer-assisted instruction was positive. Their responses to the survey indicated that they enjoyed and preferred the computer-assisted instruction to teacher-led instruction (Stetter & Hughes, 2011).

Another important strategy for making text more meaningful to students is the use of graphic organizers to represent ideas (Jitendra & Gajria, 2011). Graphic organizers facilitate learning as well as teaching of comprehension strategies. Jitendra and Gajria (2011) discuss various studies conducted at the high school level that resulted in increased comprehension scores for students with learning disabilities. Graphic organizers provide struggling readers with a visual tool that helps them retain information and increase text comprehension. One of the studies mentioned in this article investigated the use of graphic organizers as a post-reading strategy. Results showed that students using graphic organizers outperformed students that were not using graphic organizers. The use of the graphic organizers after reading allowed students to more easily recall and organize important information (Jitendra & Gajria, 2011). Another strategy that was reviewed by Jitendra and Gajria (2011) was the Question Answer Relationships (QAR) approach. This questioning strategy teaches students to identify and differentiate three types of questions when comprehending text. The three types of questions are 'Right There', 'Think and Search', and 'On My Own'. Students are able to make inferences from information in the text. Text enhancement such as graphic organizers can help develop the comprehension skills of students with learning disabilities. The focus should also be on cognitive and metacognitive strategies that scaffold student learning and make it concrete, meaningful, and engaging (Jitendra & Gajria, 2011).

Technology in Education

Over time technology has played an increasingly important role in the success of students with learning disabilities in reading. Because of the demand for technology use, various tools have been incorporated into classrooms, including SMART Boards, iPods, Elmos, and iPads (Saine, 2012). However, technology is constantly evolving and it has been difficult for researchers to conduct studies that are relevant before the technology becomes outdated (Kennedy & Deshler, 2010). Kennedy & Deshler make recommendations for how to integrate technology into literacy instruction. Some of their recommendations include selecting or designing multimedia materials that assist students in building their literacy skills and also foster active learning. The multimedia materials should also limit extraneous processing and manage essential processing. These researchers would like to see further study of the effectiveness of technology in literacy instruction in various learning situations including grade level, setting, and content area.

Computers are more accessible than ever before in today's classrooms. Therefore, most teachers are looking for ways to use these computers and other technologies to the advantage of struggling readers. The extra assistance and drill that a computer-based program can provide makes a big difference in the acquisition and practice of reading skills for students with learning disabilities (Stetter & Hughes, 2010). Stetter and Hughes wanted to know how effective computer-assisted instruction could be in enhancing reading comprehension of students with learning disabilities. Based on their review of the limited research, it was found that students with learning disabilities could learn from well-designed computer-assisted instruction. It was also found that despite success within

the program, these students might not transfer the strategies learned using computers to other methods of learning.

Another study sought to research the effects of technological tools on reading comprehension in secondary students of diverse backgrounds (Cuevas, Russell, & Irving, 2012). The study implemented an independent silent reading (ISR) program in an urban public high school. The students read independently either from a textbook or a computer module designed to address essential components of reading. The control group did not participate in ISR. The researchers found that students from the two ISR groups made greater reading gains than the control group. The computer module group made an even greater improvement than the textbook group (Cuevas, et al., 2012).

Behjat, Bagheri, and Yamini (2012) researched the impact of blogs and wikis on reading comprehension. They say that Internet access alone is a motivating factor for students to read more extensively. Reading on the Internet requires that students use higher order comprehension like making inferences and responding to text. The researchers point out that online texts have links to other texts. This feature gives students more of an opportunity to read and try to analyze what they are reading without the help of a teacher. (Behjat, et al., 2012) Their research indicates that these technologies have a positive impact on students' reading success.

21st Century Reading and Learning

Learners in the 21st century are drawn to and motivated by technology. It's a part of their daily lives outside of school, and more and more, inside of school as well. Once students graduate from high school, they will be expected to be able to be literate in technology as well as reading.

There are multiple options when it comes to including electronic reading in the classroom. Electronic books can be read online on a computer, sometimes at no cost. All that is needed is Internet access. There are many providers that supply free book collections (Siegle, 2012). The public domain is filled with classic titles that students can read. Siegle weighs the advantages and disadvantages of reading books directly online. One major advantage is that there is no special hardware or software that is needed to read books online. Students can read from any device that has Internet access. One disadvantage of reading online is that students must have an Internet connection and that is not always the case.

Books can also be read on free software provided by electronic reader providers such as Amazon and Sony (Siegle, 2012). Schools can download Kindle software on their PCs or tablets and have their students read books on these devices.

Electronic readers provide new possibilities for teaching and learning. Instant access to books is a perk of electronic readers (McKenzie, 2009). The popularity of reading electronically can be a predictor to the value of doing so in educational settings. One study reported that users preferred using the iPad to read because of its attractive user interface, although some may read more slowly from it (Connell, C., Bayliss, L. & Farmer, W., 2012). No need to go to the library or bookstore, with a few clicks the book you're looking for can be immediately available to you. When books are so easily accessible, it makes it more difficult for students to say that there is nothing in the classroom that they want to read. Many books can be stored on one device instead of having many print books taking up a lot of space. E-books can also be a way to attempt to reduce the waste of paper (Connell, et al., 2012).

Research directly related to the effects of using the iPad as an electronic reader is somewhat limited. The iPad is a relatively new technology, especially as a tool to be used in the classroom setting. Despite its immense popularity, it can be difficult for schools to implement the use of iPads in the classroom. Funding is a limitation for some schools. However, classrooms that are able to offer iPads to its students will surely see an interest from today's technology savvy students. Ferriter (2012) points out that a school can provide a tablet computer and an electronic reader to students with one purchase when they get the iPad. Incorporating digital texts accessed from a computer or tablet as a supplement in reading instruction can increase the likelihood that students will want to read. Digital texts can assist students in reading more fluently which Thoermer and Williams (2012) describe as a bridge between decoding and comprehension ability. Lessons presented through listening to a read-aloud or participating in Readers Theater can promote fluency (Thoermer & Williams, 2012). Reading aloud exposes students to a variety of genres, titles, and authors, thereby leading them to an even wider selection of material. The authors tell about Storyline Online (www.storylineonline.net), a streaming video program with picture books read aloud by well-known actors and actresses. The illustrations and text are displayed as the book is being read aloud. This program can be used in the classroom as a tool for fluency development. The website is easy to navigate and listening to read-alouds can strengthen students' skills in accuracy, automaticity, and prosody. As fluency improves, students' reading comprehension is also likely to improve (Thoermer & Williams, 2012).

Technology used in the classroom, specifically the iPad, is seen as a fun way to learn instead of work. These tools can transform the way students view literacy (Saine,

2012). The time is now to integrate these features into our classrooms. Murray and Olcese (2011) wanted to know what effect the iPad would have on teaching and learning, as well as whether or not the iPad could allow students to accomplish something they could not accomplish without using the iPad. The researchers looked at many applications for the iPad that are considered educational. The apps cover the categories of tutor, exploration, tool, communication and collaboration (Murray & Olcese, 2011). Many of the apps provided interventions and features that could also be accessed via computer or other device. One feature that seems to be exclusive of the iPad is the ability to synchronize data across devices and share this data with multiple users. Overall it was the capabilities of the iPad itself that proved beneficial to students, not necessarily the apps available for use on the iPad (Murray & Olcese, 2011).

Siegle (2012) discusses the new generation of electronic reading in the form of interactive book apps. There are also a number of apps that students can use to interact with text and read a story. These apps provide more than text resembling the printed word. There are interactive features that make the story come alive. These new apps feature characters' voices reading aloud the text. The words are highlighted as they are read aloud. Not only that, the reader can also add their voices to the story by making a recording (Siegle, 2012). The way young people read is evolving.

A Customized Reading Experience

A benefit of reading using the iPad is the ability for a student to customize their reading experience. A book is a book. But on the iPad, students can adjust the text size to meet their visual preferences, change the background from white to sepia to black, and choose from a variety of font types. The students can hold the iPad vertically to show a

single page or turn it horizontally to simulate a book with two open pages side by side. This can be motivating to students who normally might only be able to read a page or two of text within ten or fifteen minutes. If their font is set to a larger size, then there are fewer words on a page, giving them the opportunity to turn the page more frequently (Ferriter, 2010). Ferriter states that his students feel like they are reading more on their electronic readers. Students enjoy turning the page with a swipe of their finger and easily bookmarking where they need to keep their place. Another benefit is that struggling readers may not be so overwhelmed by the amount of reading ahead of them. Only viewing one or two pages of a book at a time keeps them from focusing on how much they have left to read and becoming discouraged.

Font size, line, and word spacing are all features that have an interactive effect on reading speed (Connell et al, 2012). McKenzie (2009) discusses the benefits of these easy to use functions for struggling readers. One of the functions she mentions is the option students have to look up unfamiliar words in an electronic reader's built-in dictionary. As students read independently, they will certainly come across words that they do not know. The iPad or other electronic reader makes it incredibly easy to highlight the unfamiliar word and access the definition. Students are more likely to look up a word on the iPad than in a dictionary because of its convenience. Electronic reading also makes it possible for students to search the text for specific information. If students are answering questions they can search for key words to help them locate the information needed. Also, if they want to look back to sections of the book they've already read, it's easy for them to search for the part they want to reread (Siegle, 2012).

These customizable features of electronic readers such as the iPad allow students to monitor themselves and regulate their independent reading experience. This serves as an intrinsic motivation to participate in the learning experience and be successful while enjoying reading (Thoermer & Williams, 2012). Making notes about their reading can also add an element to the reading process. Students can make their own notes or teachers can add notes in certain parts of the book where students should focus on an important element or answer questions about their reading. Additionally, students are able to read more comfortably using electronic readers rather than a computer or a laptop (McClanahan, Williams, Kennedy, & Tate, 2012).

Yet another convenient feature of an electronic reader is their capability of translating highlighted text from one language to another. Many teachers have students that speak English as their second language who would greatly benefit from this aspect of electronic reading (Siegle, 2012). Siegle also points out that some electronic readers will even read the text aloud in a synthesized voice.

Struggling readers may also deal with the worry that their peers are criticizing their reading selections. If they read on a lower level, they may feel uncomfortable choosing books that are appropriate for them. They do not want to be seen reading a book that appears to be for younger students. This can be frustrating and further deter their motivation for reading. Choosing a book on an iPad can help to eliminate that concern. Each student can choose a book at their reading level without worrying about what their peers might think of their choice (McKenzie, 2009). Unfortunately, students with reading difficulties are self-conscious. It is a relief to be able to read an appropriate leveled book without fear or worry of judgment from others.

A study was conducted to determine the benefits of using an iPad for a student with Attention-Deficit/Hyperactivity Disorder (ADHD) (McClanahan, et al., 2012). This student was a fifth grade boy, reading at a second grade level. The school this student attended was too small to be able to provide pull out instruction for students that needed special services. The student's parents decided not to treat his ADHD with medication. He had an individualized education plan (IEP), however the modifications and accommodations implementation was found to be inconsistent. During testing sessions, the student was often unfocused, rocking back and forth on his chair and bringing up random topics of conversation unrelated to the testing (McClanahan, et al., 2012).

One of the researchers was tutoring this student. The iPad was used as a resource for implementing reading interventions. She decided to focus her tutoring sessions on word recognition strategies such as identifying compound words and decoding, as well as comprehension strategies such as remembering details and drawing inferences. She downloaded applications and graphic organizers for the iPad. The researchers found that the iPad helped the student to focus attention and facilitate metacognition. This student showed one year's growth in reading within the six-week time period. These results suggest that using an iPad should be considered for other students with similar difficulties (McClanahan, et al., 2012).

Summary

Students with reading disorders need to be taught appropriate and effective interventions to aid in decoding, fluency, and comprehension. A variety of strategies have been researched, proven to be valuable, and implemented by teachers. Many of these

strategies incorporate technology. Studies have shown that the use of technology in teaching students with reading disorders has a positive impact on reading success.

Electronic readers such as the iPad have made their way into classrooms and will continue to be a valuable resource for students with reading disorders. Hopefully, the popularity of these devices will contribute to an increased awareness of the importance and enjoyment of reading and motivate struggling readers. This study will look further into whether there are positive effects of reading on the iPad for students with reading disorders.

Chapter 3

Methodology

Setting and Participants

This study was conducted in order to study the effectiveness of using an iPad as an electronic reader in increasing students' reading and enjoyment. Students were surveyed about their preferences in reading and their experience with technology. The purpose of the study was to find out if students read more on an iPad than they did when they were only able to read books and if they prefer reading on the iPad.

The study was implemented in a classroom in a public high school in Cumberland County, New Jersey. The school serves about 1200 students from seven sending districts. The classroom was a resource center for students receiving special education services.

Two special education teachers co-taught the two sections of READ 180. An instructional aide was also present in the classroom to assist the teachers and students. The READ 180 program is implemented during an 84-minute block each day. The READ 180 program is a full-year course for ninth graders. The participants were enrolled in two sections of READ 180. There were eleven students in one section and twelve in the other section.

The students that participated in the study were ninth graders enrolled in READ 180, an intensive reading program designed by Scholastic. There were twenty-three students, fifteen male and eight female. Fourteen of these students meet the criteria for "specific learning disabled" as defined by the New Jersey Department of Education, four for "other health impaired", two for "mild cognitive impaired", one for "communication impaired", one for "emotionally disturbed", and one for "Autistic".

Four of these students did not continue with the study after the iPads were introduced. Three of the students had their schedules changed and one student was not allowed to have access to the iPad after a disciplinary infraction. Therefore, the final group of participants included nineteen ninth graders. There were thirteen males and six females in the group. These students continued as participants in the study, read on an iPad, and took the survey.

Materials and Instruments

Students were administered the *Scholastic Reading Inventory* which measures their Lexile. The Lexile reader measure tells where a student's reading ability is on the Lexile scale. The Lexile scale is a way of reporting reading ability from 0 Lexile to 2000 Lexile. The higher the number is on the Lexile scale, the higher the student's reading ability. Each book in the library is labeled with the Lexile level and students use this information to make their choice. The *Scholastic Reading Inventory* was administered in September, November, and January.

The iPads were introduced to the students as an option for reading electronically at the conclusion of the first marking period. A lesson on how to use the iPad was implemented so that students would become familiar with the available features. There were six iPads available. Students were broken up into groups with no more than six students; therefore each student was afforded the opportunity to use an iPad. A wide variety of books were downloaded on the iPad. Some of the selections were free downloads from the iBook Store. Some of the selections were those chosen by students enrolled in the program last school year. A survey was conducted to measure students'

reading and technology preferences. It also measured which features students used to enhance their reading experience on the iPad.

Procedure

The 84-minute READ 180 block begins with 20 minutes of whole group instruction. The lesson varies each day with instruction in reading comprehension, word study, vocabulary, writing, and grammar. At the conclusion of whole group instruction, the students break up into three groups. Each group visits three rotations daily. The

Name: _____

Reading and iPads – Student Survey

Directions: Please respond to the items below by circling the answer that best describes how you feel.

	Strongly Disagree		Neutral		Strongly Agree
1. I like to read.	1	2	3	4	5
2. I like to read electronic books on an iPad.	1	2	3	4	5
3. I like to read paperback/traditional books.	1	2	3	4	5
4. I like to use technology like iPads and Smartphones.	1	2	3	4	5
5. I prefer to read on the iPad compared to traditional books.	1	2	3	4	5

Directions: For these items, please circle the answer that best describes how often you do the following:

	Never		Sometimes		Frequently
6. I change the font size of my book on the iPad.	1	2	3	4	5
7. I change the font of my book on the iPad.	1	2	3	4	5
8. I use the dictionary feature on the iPad.	1	2	3	4	5
9. I use the bookmark feature on the iPad.	1	2	3	4	5
10. I change the background color on the iPad.	1	2	3	4	5
11. I use the highlight feature on the iPad.	1	2	3	4	5
12. I use the notes feature on the iPad.	1	2	3	4	5
13. I use the search feature on the iPad.	1	2	3	4	5
14. I adjust the brightness on the iPad.	1	2	3	4	5
15. I change the page orientation on the iPad.	1	2	3	4	5

Figure 1. Reading and iPads – Student Survey

rotations are small group instruction, READ 180 software, and independent reading. In small group instruction, the day's lesson is extended and extra instruction and assistance is provided. In the READ 180 software, students work independently practicing reading comprehension, vocabulary, word fluency, and spelling. In independent reading, students choose a book to read and spend the time reading silently or listening and following along with an audiobook.

The study was implemented during the independent reading rotation. The study followed a single subject research design. Students aimed to read for 20 minutes each day, five days a week during their independent reading rotation. Students were monitored to ensure that they were reading and on task. When time was called to move to the next rotation, the students at the independent reading rotation record the pages they read that day and wrote a three sentence summary in a daily log.

The students chose books to read independently during the first marking period from the beginning of September until the middle of November. Their choices were based upon interest as well as reading level. The books in the READ 180 library are labeled with a Lexile level as well as a level 1 through 4. This allows the teacher to give students a selection of books to choose from that will match their reading level. Even the lower level books are written to be of high interest for high school students. At the commencement of the second marking period, the iPads were introduced to students. Throughout the second marking period, students read using the iPads. Students were required to finish reading the paper-based book they were currently reading before selecting a book on the iPad. For this reason, some students did not get as much time to

read on the iPad as others. Those students were ones that chose a longer book or were often absent.

Data Collection

Data was collected by recording the number of pages each student read as they finished reading a book. The total number of pages read was recorded prior to beginning to read on the iPad. Students began to switch over to reading on the iPad as the second marking period began. The number of pages each student read was recorded as they finished reading a book on the iPad. The total number of pages read on the iPad was recorded at the conclusion of the second marking period. The students read on the iPad from the middle of November until the end of January.

The survey was conducted at the end of the second marking period after students had the opportunity to read on an iPad. Students rated their reading preferences and the extent to which they used available features on the iPad. There was also an opportunity for student reflection.

The number of pages read in the first marking period was compared to the number of pages read in the second marking period after the introduction of the iPad to find out whether the number of pages read increased with the implementation of electronic reading.

Chapter 4

Results

Summary

Twenty-three ninth grade students with learning disabilities participated in this pretest-posttest group design study. The research questions to be answered were:

- 1.) Will the use of iPads for independent reading enhance the reading motivation of ninth grade students with learning disabilities as measured by number of pages read and students' self-reported interest in reading in response to a survey?
- 2.) When using iPads to read independently in class, will students read more than when they only had the option to read books? Will students prefer reading on an iPad or reading a book?

Procedure

The study monitored the number of pages students read independently for two marking periods. Students read traditional books for the first marking period. At the beginning of the second marking period, the iPads were introduced and students began reading electronic books. The number of pages students read of traditional books were recorded, as well as the number of pages students read of electronic books.

During the time of the study, students were assigned to read for twenty minutes each day. At the conclusion of the rotation, students recorded the pages they read in a log and wrote a summary of what they read each day. The teacher conducted conferences with each student about their reading selections, goals, and progress throughout both marking periods. Students read independently and continued to choose a new book each time they completed one.

Results

The results indicate that more students read an increased number of pages on the iPad than of traditional books. However, the average number of pages read on an iPad was less than the average number of pages read of traditional books. Students read an average of 278.6 pages with traditional books. Students read an average of 264.5 pages on an iPad.

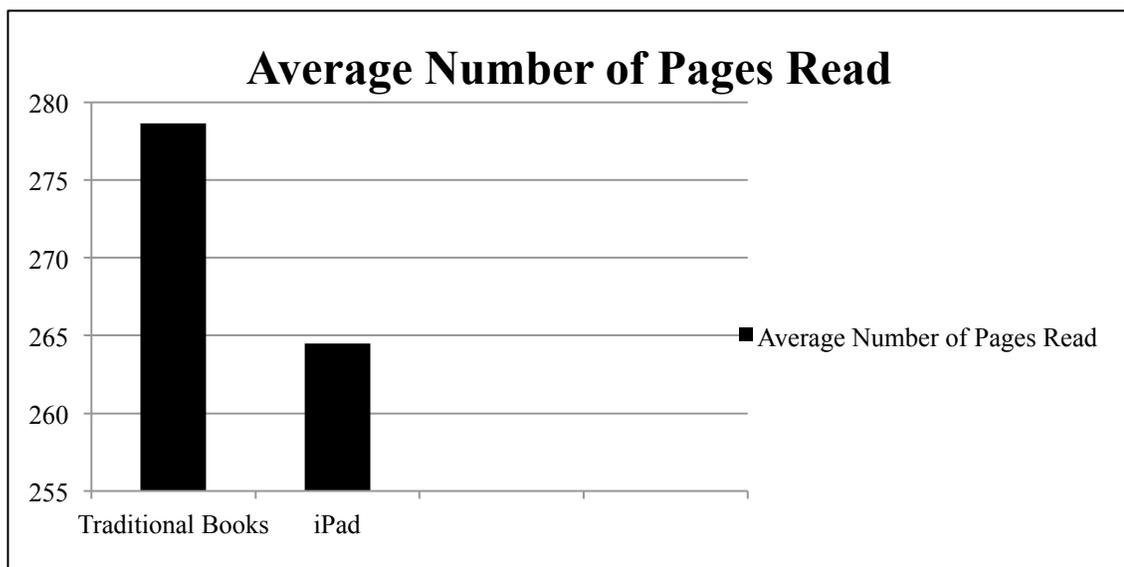


Figure 2. Average Number of Pages Read

Individually, twelve of the participants read more pages on an iPad than they did with traditional books. One student read 162 more pages on an iPad than he did with traditional books with an overall of 412 pages read on an iPad. Another student read 152 more pages on an iPad than she did with traditional books with an overall of 587 pages read on an iPad. These students, among several others, benefited from the use of an iPad for electronic reading.

Seven of the participants read more pages of traditional books than they did on an iPad. For example, one student read 264 more pages with traditional books than he did on an iPad, with 152 pages read on an iPad. Another student read 214 more pages with traditional books than he did on an iPad, with 70 pages read on an iPad. These students, among others, read more with traditional books.

Students also completed a survey about their experience with reading on the iPad. Ten of the nineteen students surveyed agreed or strongly agreed that they like to read electronic books on an iPad. Four of the nineteen students agreed or strongly agreed that they like to read paperback/traditional books. Thirteen of the nineteen students agreed or strongly agreed that they prefer to read on the iPad compared to traditional books. Overwhelmingly, seventeen of the students agreed or strongly agreed that they like to use technology like iPads and Smartphones.

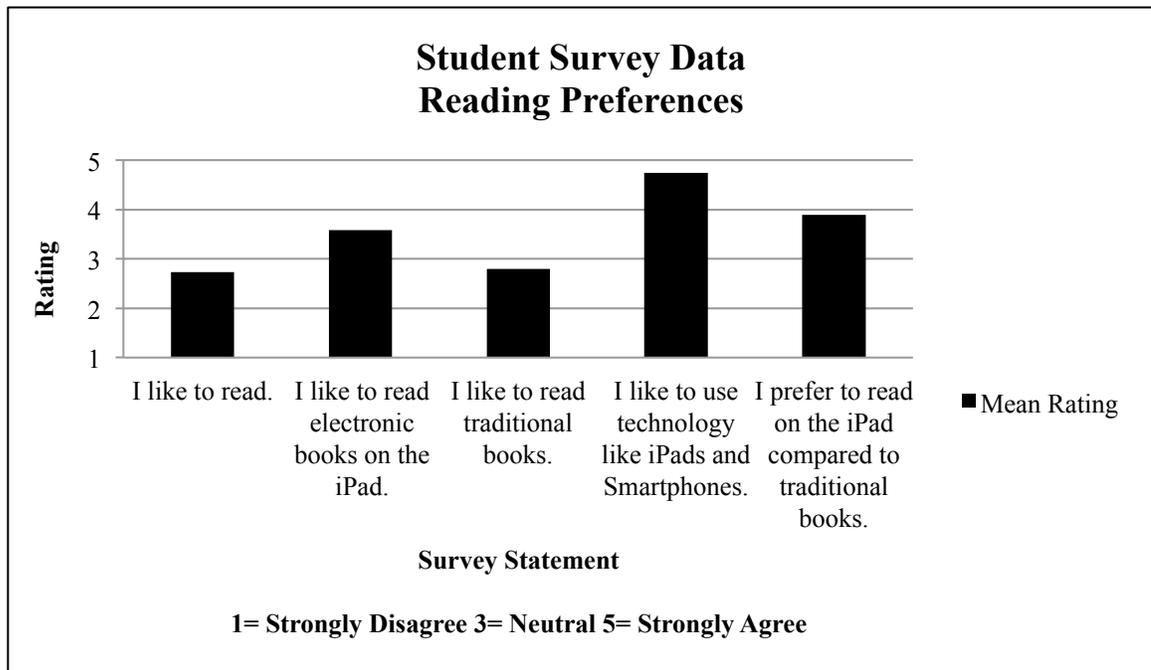


Figure 3. Student Survey Data – Reading Preferences

One purpose of the survey was to identify which of the iPad features students utilized to enhance their reading. Overall, the majority of students did not utilize the features available to them. Ten students stated that they never used the dictionary feature on the iPad. One feature that students used most frequently was to adjust the brightness of the iPad screen. Another feature that students used most frequently was to bookmark their page on the iPad.

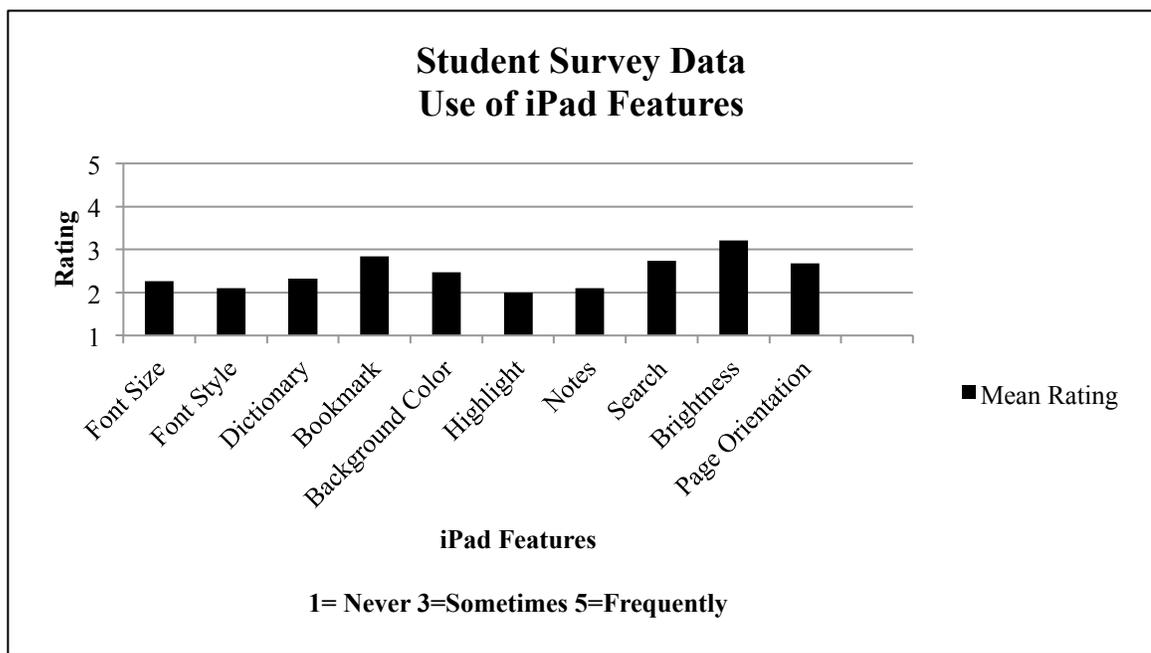


Figure 4. Student Survey Data – Use of iPad Features

The number of pages read by these nineteen students was monitored over the course of two marking periods. Although the data indicates that students did not average more pages read on the iPad than with traditional books, it does indicate that most students prefer to read on an iPad. The number of pages read on the iPad versus traditional books varied by individual student. The reading preferences of these students also varied.

Chapter 5

Discussion

Review

In this study, ninth grade students with learning disabilities were provided with iPads to use for independent reading. The amount of pages read on traditional books was compared to the number of pages read on an iPad. Nineteen students were monitored through two marking periods. These nineteen students also completed a survey based on their preferences for reading and their use of features available on the iPad.

It was hypothesized in Chapter 1 that students would read more on the iPad and would also prefer to read on the iPad. Technology would motivate students to read more and the features of the iPad would make reading easier and more enjoyable for students.

The results of this study indicated that twelve of the nineteen participants (63%) read more pages on an iPad than they did with traditional books. Seven of the participants read more pages of traditional books than they did on an iPad. The results indicate that more students read an increased number of pages on the iPad than of traditional books. However, overall the average number of pages read on an iPad was less than the average number of pages read of traditional books.

Students also completed a survey about their experience with reading on the iPad. Thirteen of the nineteen students agreed or strongly agreed that they prefer to read on the iPad compared to traditional books. Overall, the majority of students did not utilize the features available to them such as changing the page orientation or making notes. The features that students used most frequently were the bookmark and adjustment of brightness.

A written response question was asked on the survey as well. "Do you like reading on the iPad? Why or why not? Write about your experience with the iPad." One student said, "I like to read on the iPad. It is more hip and new. I don't have an iPad so I can use this one." Another student responded, "I like reading on the iPad because you have a whole bunch of books you can read. I don't like holding the old books. It feels weird." A few students even mentioned the available features. "I like reading on the iPad. I only read a couple of books but it was a good experience. I like reading on the iPad because the font has a good size to it compared to a paper book." Another student said, "I like reading on the iPad. We can highlight where we stopped reading. And we don't have to hold the iPad like we do for books. We can sit it on the table."

A couple of students expressed that they preferred not to read on the iPad. This student recognized that the iPad was a distraction for him. "I do not like reading on the iPad. It is too heavy and too much work. I always have to hold it and it gets heavy after a while and it's too much turning. Also, I get distracted and I start to log online. When I see the iPad I start to think if there is any games on there." Another student responded, "I don't like it. It's boring. Paperbacks are better."

Although the results of the study did not indicate that all students were averaging more pages read on an iPad than in traditional books, they did show an increase in pages read for some individual students. The results of the survey did indicate that most students preferred to read on the iPad than traditional books. For most of the students that did not read more pages on the iPad, it was largely due to their distractibility. For these students, the iPad actually caused a decrease in pages read, due to the fact that they were doing things other than reading. They moved the apps around on the screen, changed the

background picture of the iPad, looked at the map, or clicked and opened multiple apps. Other students spent extra time choosing a book. They started to read one, decided they didn't like it, chose something else, and started to read that. They were instructed that they had to choose the new book within a given time limit.

Implications

There's no question that high school students enjoy using technology. In fact, it is now a part of their everyday lives. The use of technology in the classroom can be motivating to students. However, it can also become a distraction. The use of the iPads for reading was helpful in allowing students more options when choosing a book to read. The iPads, when used appropriately, motivated some students to read more than they did when only given the option of reading traditional books. It also allowed students to choose books that were at an appropriate reading level without having the concern that other classmates were judging their selection. Reading electronically is a more private way to read and minimizes these issues for students that struggle with difficult text.

For other students, the iPad became a toy. They would click on other applications, move them around around on the display screen, and attempt to locate their houses on Google maps. These students did not benefit from using the iPad as a reading tool. They were distracted by the other options available on the iPad. Perhaps the use of an electronic reader without the capability to access other applications would have been less distracting. It would be my recommendation that future studies utilize an alternate electronic reader. However, iPads were the only option in this classroom.

In that case, another suggestion for minimizing distraction for students is to direct the students to place the iPad on the table where the teacher can see what is shown on the

screen while they are reading. In this classroom, students are able to sit in comfortable chairs and aren't necessarily at the table during the independent reading rotation. The fact that the teacher could not always see what was on the iPad screen allowed the students to become distracted from reading.

Also, according to the responses on the survey, many students did not utilize the features available to them while reading on the iPad. One of the advantages of reading on an iPad is that students can make adjustments to accommodate their reading preferences. However, many students did not make those adjustments to enhance their reading experience. Perhaps in the future, teachers that allow students to read on an iPad could provide more detailed lessons on how to use the features. Students may have been unaware of some of the options. Although the teacher introduced the iPad with a lesson, the students may have benefited from more direct instruction on using the features in iBooks.

For a student to achieve success in electronic reading, they need to be willing and able to follow the guidelines set forth by the teacher. They need to have self-control to keep from being distracted. Teachers should instruct the students in how to use the iPad and the various features that enhance reading. Choosing the right book is just as important on the iPad as it is with traditional books. The book students read need to be at an independent reading level. Students should have access to books at the appropriate reading level to read on the iPad. Reading on the iPad allows for students to choose an appropriate book without worrying about what other students think about their choice. Reading on an iPad would be a good option for students that are self-motivated and able to stay on task.

Limitations

The results of this study may have been impacted by several factors. Time was an issue during the research. Although students are assigned to read for twenty minutes each day that is not always what happens. Students are going to be absent, or out of class for one reason or another. This cuts down on the time they have to read. Also, the class rotated in three groups and often times the last group to read, which changes daily, had less time than the others due to the need to wrap up the class period. Also, although each marking period consists of 45 days, the second marking period included three days of which students were required to take the state test. These were days they did not read. Also, the final exams took another two days of reading away from the second marking period.

Student choice was another issue. The iPads were preloaded with electronic books that were chosen by students the previous year. Although there were many options, and more free books could be downloaded, students still had to choose for a limited selection. They were not able to choose books not already downloaded. It was also difficult to accurately account for what each student read. The data was collected as pages read, and on the iPad, the pages listed on the book description were counted because increasing the font size on the iPad could skew the results for pages read.

Further research should be conducted to ascertain whether electronic reading benefits struggling readers with learning disabilities. It would be recommended that in future studies, students be more explicitly taught how to use the features available to enhance reading. In this study, most students did not utilize many of the features. If they were not already familiar with the features, they may not have known or remembered that

some of them were available. Also, the results may be more accurate if it can be ensured that all students read for the same amount of time each day and are monitored throughout the same number of independent reading sessions. Otherwise, student absences and other factors can influence the data. Although technology is extremely popular with students, it is always evolving and the iPad is relatively new. There has not yet been sufficient research of the effects of an iPad on the reading of students with learning disabilities.

Conclusion

In this study, two questions were to be answered. First, would iPads motivate students to read more? After reviewing the data, for the majority of students the iPads did motivate them to read more. However, the iPads did not increase the amount students read on average. Second, would students prefer to read on the iPad, whether or not they read more? Based on the results of the student survey, the majority of students did prefer to read on the iPad instead of traditional books.

In conclusion, iPads can be a motivating tool for struggling readers. Although the iPads did not make all students read more, it was an effective motivator for some individual students. More research needs to be conducted on the effectiveness of iPads as an option for student independent reading. As the research indicated in Chapter 2, schools are making technology available more and more for individual student use. Individual teachers need to be able to decide how and when it is appropriate to implement the use of iPads in their classroom, for their students. Also, preventative measures should be taken in order to ensure the effectiveness of using iPads, especially for students that are easily distracted. Motivating students through the use of technology can enhance their reading experience.

References

- Behjat, F., Bagheri, M.S., & Yamini, M. (2012). Web 2.0-assisted language learning: using technology to enhance reading comprehension. *International Journal of Social Sciences and Education*. 2(1), 247-258.
- Connell, C., Bayliss, L., & Farmer, W. (2012). Effects of e-book readers and tablet computers on reading comprehension. *International Journal of Instructional Media*. 39(2), 131-140.
- Cuevas, J.A., Russell, R.L., & Irving, M.A. (2012). An examination of the effect of customized reading modules on diverse secondary students' reading comprehension and motivation. *Education Tech Research Development*. 60, 445-467.
- Esteves, K.J. & Whitten, E. (2011). Assisted reading with digital audiobooks for students with reading disabilities. *Reading Horizons*. 51(1), 21-40.
- Ferriter, W.M. (2010). Can't get kids to read? make it social. *Educational Leadership*. pp. 87-88.
- Ferriter, W.M. (2010). E-readers: get ready for the revolution. *Educational Leadership*. pp. 84-85.
- Jitendra, J.K. & Gajria, M. (2011). Reading comprehension instruction for students with learning disabilities. *Focus on Exceptional Children*. 43(8), 1-16.
- Kennedy, M.J. & Deshler, D.D. (2010). Literacy instruction, technology, and students with learning disabilities: research we have, research we need. *Learning Disability Quarterly*. 33, 289-298.
- McClanahan, B., Williams, K., Kennedy, E., & Tate, S. (2012). A breakthrough for Josh: how use of an iPad facilitated reading improvement. *TechTrends*. 56(3), 20-28.
- McKenzie, D. (2009). Ebooks and 21st century learning. *Multimedia Internet*. 16(1), 27-28.
- Melekoglu, M. A. (2011). Impact of motivation to read on reading gains for struggling readers with and without learning disabilities. *Learning Disability Quarterly*, 34(4), 248-261.

- Murray, O.T. & Olcese, N.R. (2011). Teaching and learning with iPads, ready or not? *TechTrends*. 55(6), 42-48.
- Saine, P. (2012). iPods, iPads, and the SMARTBoard: transforming literacy instruction and student learning. *The NERA Journal*. 47(2), 74-79.
- Siegle, D. (2012). Embracing e-books: increasing students' motivation to read and write. *Gifted Child Today*. 35(2), 137-143.
- Snowling, M.J. & Hulme, C. (2012). Annual research review: the nature and classification of reading disorders – a commentary on proposals for DSM-5. *Journal of Child Psychology and Psychiatry*. 53(5), 593-607.
- Stetter, M. & Hughes, M. (2011). Computer-assisted instruction to promote comprehension in students with learning disabilities. *International Journal of Special Education*, 26(1), 88-100.
- Stetter, M. & Hughes, M. (2010). Computer-assisted instruction to enhance the reading comprehension of struggling readers: a review of the literature. *Journal of Special Education Technology*. 25(4), 1-16.
- Thoermer, A. & Williams, L. (2012). Using digital texts to promote fluent reading. *The Reading Teacher*. 65(7), 441-445.