Spring 5-1-2013

EBook Exploration: How EBooks Support Emergent Literacy

Amy Flynn
The College at Brockport, aflynn910@gmail.com

EBook Exploration: How EBooks Support Emergent Literacy

By

Amy Flynn

May 2013

A thesis or project submitted to the

Department of Education and Human Development of the

State University of New York College at Brockport

in partial fulfillment of the requirements for the degree of

Master of Science in Education

Table of Contents

List of Illustrations

List of Tables

Chapter One: Introduction

Background-

As I was tutoring my niece and nephew in reading one day, my niece asked if they could read a book on their nabi, a children's tablet that has an eBook reader on it.

Child 1: Can I read that book on my nabi?

Teacher: UM

Child 1: Please? It's the same as this paper book, just on the computer.

Child 2: No, it's not. nabi books aren't real books.

Teacher: UM

Child 1: Yes, it is just like a regular book.

Child 2: No, it's not!

Teacher: UM

I was the teacher in this real-life scenario and obviously, I floundered. I was not sure if reading a book on the nabi was the same, exactly, as a traditional paper book. I did let my niece read the e-book she wanted to and she liked it, but my head was spinning. As a literacy teacher, I was left with multiple questions. Would my goals of teaching reading decoding and comprehension still be met if I used eBooks in my tutoring? Could eBooks possibly be more beneficial in my tutoring than traditional books because eBooks create more of an interest in reading or would they be more of a distraction instead? What kinds of eBooks were there for elementary aged students, what kinds of modes or characteristics are used in eBooks, and how

may they be different than those of traditional books? These questions led me to explore the impact eBooks have on emergent literacy development.

Research Questions-

In this study, the scope of eBooks available to students was researched with a focus on motivation/engagement and how eBooks support decoding and comprehension.

- What kinds of eBooks are read by elementary age students?
- What kinds of modes (ex: images, sounds, colors, etc) do eBooks use? (What kinds of characteristics do they have?)
- How do eBooks motivate or engage students to read/write?
- How do eBooks support decoding?
- How do eBooks support comprehension?

Rationale/Significance of Study-

E-books are the future of literacy. They have become more and more popular over the past ten years (Almaguer & Pena, 2010; Lamb & Johnson 2011; and Tompkins 2010). It is immensely important to know about e-books because my students are reading them and they are becoming available in every library. As a teacher, I need to know about the current scope of literature to teach students in the 21st century. It is critical that I know how to access them and what e-books have appropriate content worth reading. In addition, if there is a real difference in outcomes in decoding and comprehension between e-books and paper books, then that would affect my curricular decisions regarding use of them.

My own lack of experience with eBooks also led me to this research. I have never read an eBook before and do not know very much about them. However, remaining ignorant about eBooks would do my students a great disservice. I really needed to learn more about them in order to be successful teacher in planning lessons and making choices about which books would be the most beneficial to my students. The bottom line is that my students are reading them, therefore as a reading teacher, I should know as much about them as possible.

Definitions-

EBook- An eBook is defined as, "An electronic book (also e-book, eBook, digital book) is a text- and image-based publication in digital form produced on, published by, and readable on computers or other digital devices." ("E-book," n.d., para. 1)

Mode- A mode is the, "appearance, form, or disposition taken by a thing, or by one of its essential properties or attributes." ("Mode," 2012, para. 1).

Engagement-

> Students will show they are engaged by being motivated to read and are actively involved in reading. Engaged readers approach reading with enthusiasm and confidence. Pursuing clear reading goals, they focus their attention purposefully and demonstrate well-established habits of concentration. They take pleasure in using their skills to understand a text and invest special effort in what they care about most. (Meyer & Rose, 1998, para. 3).

Motivation- Students will show they are motivated by demonstrating interest in reading and wanting to read for their own pleasure. Reading motivation is defined as, "The arousal, direction, and sustaining of reading interest and activity for work, school, pleasure, or other purpose ("Reading motivation," n.d., para.1)."

Decoding-

> Students will demonstrate sounding out or reading aloud as they read words. Decoding is the ability to apply your knowledge of letter-sound relationships, including knowledge of letter patterns, to correctly pronounce written words. Understanding these relationships gives children the ability to recognize familiar words quickly and to figure out words they have not seen before. Although children may sometimes figure out some of these relationships on their own, most children benefit from explicit instruction in this area. Phonics is one approach to reading instruction that teaches students the principles of letter-sound relationships, how to sound out words, and exceptions to the principles. ("Word decoding and phonics," n.d., para. 1).

Comprehension- Students will demonstrate making meaning by understanding what they are reading. "Reading comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language ("Defining comprehension," n.d., p.11)."

Study Approach-

I chose to make this study a home-based qualitative active inquiry using only two participants, making quantitative research difficult. Researching the kinds of

eBooks read and the modes in them is also not easily measured quantitatively. In addition, engagement and motivation are subjective. These topics are best researched qualitatively through review of book catalogs, informal testing, interviews, collection of artifacts, and through participant observation. The study took place in the home of the two children I tutor during hour long tutoring sessions twice a week for four weeks. My role as the teacher researcher was as an active participant as I taught them.

Organization of the Thesis-

This thesis has five chapters. Chapter One is an introduction to the research. It includes the study background, problem statement, purpose, and rationale. Chapter Two is a review of previous and current research regarding this topic. Chapter Three covers methods and will discuss the context of the study, participants, data collection instruments, procedures, and data analysis. Chapter Four comprises the study's findings and it discusses the answers to the research questions. Finally, Chapter Five discusses suggestions for future research on this topic and also implications for teaching.

Summary-

This research study is about eBooks. EBooks read by elementary age students were reviewed with a focus on the modes eBooks use, such as images, sounds, colors, etc. through interviews and through review of eBooks available to the students. How eBooks motivate or engage students to read and write will be researched along with how eBooks support decoding and comprehension through a

home-based qualitative active inquiry. This research is very beneficial to me, my students and fellow colleagues in the field of education because eBooks are a part of the current and future students' reading culture. This research study is also very beneficial to the students that I tutor because it is targeted to them and their skills and interests.

Chapter Two: Literature Review

Introduction

This research study explores how eBooks support young children's emergent literacy development. Specifically, it focuses on what kinds and modes are available in eBooks for young children, how eBooks motivate or engage students to read and write and how they support students' decoding and comprehension skills through a home-based qualitative active inquiry. This chapter will begin by outlining the importance of this study and the theory behind the research. It will discuss the kinds and modes of eBooks and some common features that eBooks have. Current research on how eBooks support students' reading engagement and motivation and comprehension and decoding development will be explored. Finally, a few negative aspects of eBooks will be offered.

This research study is important because eBooks are the future of literacy and they are becoming more and more popular (Almaguer & Pena, 2010; Lamb & Johnson 2011: and Tompkins 2010). Leu, Kinzer, Coiro, and Cammarack (2004) found describe an urgent need to address the discrepancy between the types of literacy students find at school and those actually practiced in their daily lives. According to a position statement from the International Reading Association (IRA) (2009), today's definitions of reading and traditional definitions of best practice reading instruction are, "insufficient in the 21st century" (p. 1). Students commonly use many Information and Communication Technologies (ICTs) in their daily lives such as e-mail, search engines, eBooks, Video, YouTube, podcasts, and more.

Students need to be proficient in these new technologies and educators are responsible for incorporating them into curriculums. The IRA recommends that teachers attend professional development on new ICTs and instruction, explore new instructional models that incorporate ICTs, and provide equal access to ICTs to all students to better foster and improve learning.

Theories

EBooks are a new literacy and the theory of New Literacies is central to this research study. New literacies are all the skills and strategies that allow us to use the Internet and other ICTs effectively. Examples of new literacies are using a search engine, evaluating the accuracy of information, knowing how to use e-mail, and inferring correct information.

According to Leu, Kinzer, Coiro, and Cammarack (2004):

> A New Literacies Perspective tells us that the internet and other continuously emerging ICTs will be central to literacy in both our personal and professional lives and that these technologies require new literacies in order to effectively exploit their potential. (p.1599)

EBooks have new characteristics that require different comprehension processes and different instructional strategies (Coiro, 2003). Students need to use traditional comprehension strategies in new ways to read web-based print, for example. Activating background knowledge is used in a new way as students use it to know how to navigate a search engine, they evaluate as they determine website or link relevance, they monitor navigation choices, etc. (Tompkins, 2006).

Kinds/Modes of eBooks

EBooks vary in their design, characteristics, and features. An eBook is a computerized text. EBooks can be read on computers or on a digital reading device. "A digital reading device stores hundreds of books, newspapers, magazines, and blogs; allows for quick look-up of information through its built-in dictionary, Wikipedia, or internal search capabilities; and offers customizable settings to suit each unique reader" (Larson, 2010, p.15). For example, the company Amazon makes a digital reader called a Kindle, the company Barnes & Noble offer a digital reader called a Nook, and Apple makes the iPad (Larson, 2010). To read an eBook, three different components are necessary, an eBook file, software to read the eBook file, and something to read it on (Cavanaugh, 2002).

When choosing which hardware you will use to read the eBook, (which digital reader or computer) depends on the preferences of the person reading it. Lamb and Johnson (2011) suggest keeping the following things in mind when choosing what to read an eBook on:

- Content- How are you getting the materials to read on the hardware? Are there issues regarding licensing?
- Portability- Can it be used in all the locations that you will need it to?
- Media Access- What type and how is the media accessed? Are there fees?
- Display- Do you need it to be easy to read? Adjustable?

- Technical Aspects- Is the device easy to navigate? What is the power source? Will the device need batteries, cables?

EBooks are available in many languages and may contain instructional support and entertaining media features. They may contain animation, video, organizing features, interactive elements, and hotspots, which are animations that are activated by clicking on it with the mouse (Zucker, Moody, & McKenna, 2009). Instructional support features of eBooks can include highlighting, creating dictionaries for vocabulary support, and that allow students to interact with others, or have response pages with instant feedback (Coiro,2003). EBook features such as their lightweight ease of portability, adjustable font, bookmarking and highlighting, narration, and interactive dictionaries were found to be accommodating to students with disabilities (Cavanuagh, 2002).

How eBooks Support Reading Motivation and Engagement

There were varying results regarding eBooks' support of students' reading motivation and engagement in current research studies. For example, Jones and Brown (2011) found that the format of the book had no impact on the enjoyment the students perceived from the storyline in their study of twenty-two third grade students in the southeast part of the United States. Eleven boys and eleven girls were given satisfaction surveys and comprehension tests during three reading lessons, one lesson using a traditional print book and two lessons using an eBook. Overall, the students showed no preference for reading the books in either format. They did find that students prefer to have a choice in reading material and that format was not an

important factor in students' reading engagement. Students' connection with the story's characters and settings was the key factor in reading engagement and motivation. Student choice rather than format impacted reading engagement and comprehension. A study done by Grimshaw, Dungworth, McKnight, and Morris (2007), later described in the section on comprehension, confirmed this study and found no significant differences between print and eBooks' effect on student motivation.

Katia Ciapma, however, studied the impact online storybooks had on first grade students' reading motivation and listening comprehension and found that eBooks did have an influence on student motivation and engagement. She studied six students in Canada who were recruited through convenience sampling. She conducted twelve sessions with the students over a three month period. A pre and post comprehension test and a reading motivation questionnaire were given before and after the sessions. All of the participants increased their comprehension scores at the end of the program and really enjoyed reading the eBooks. The students especially liked the interactive features of the eBooks, such as the narration and highlighted or moving words. Ciapma found that the interactive features helped to hold the students' attention without being distracted by the external environment. The automatic feedback the students' received from the book also added to their reading enjoyment. In this study, as opposed to Jones and Brown (2011), the majority of students' preferred reading electronic books over printed books.

McClanahan, Williams, Kennedy, and Tate (2012) found that reading eBooks on an Ipad increased a fifth grade student's engagement and attention enough to be able to increase his reading level by one grade in both word recognition and comprehension in six weeks' time. This case study was done on a fifth grade boy with Attention Deficit Hyperactive Disorder who was reading at a second grade level. The child had always been tutored in reading, but for six weeks, the print book that he normally read during lessons was replaced with an eBook. He went from a second grade reading level to earning 98% on word recognition and 85% for comprehension on the third grade tests. The test subject had previously been unable to hold his attention during previous tutoring sessions and the eBook was what seemed to have made the difference in holding his attention enough to learn to read. The researchers also noted that his use of the iPad for reading also improved his attitude and motivation toward learning and school in general.

Clearly, more research is needed on the topic of eBooks' support of student reading motivation and engagement. The studies may continue to have mixed results regarding motivation and enjoyment because the topic is so subjective and may be an issue of personal taste.

How eBooks Support Decoding

EBooks have been found to support decoding when coupled with instruction or adult support. Karat and Shamir (2012) found that eBooks supported students' decoding skills with direct instruction. They studied the effect direct and indirect teaching of vocabulary word reading had while reading eBooks. 288 Israeli children

from 12 classes, 6 kindergartens and 6 pre-kindergartens, from schools in low SES neighborhoods were randomly assigned to either read eBooks or traditional print books part of the normal curriculum. The eBook had words that were taught directly through the eBook and other words were not directly taught. The students' vocabulary and word reading of the eBooks' target words were measured before and after the reading. Students who read the eBooks made more progress in word meaning and word reading than those students that read the traditional print book. They progressed in knowing the meaning of and decoding words that were supported by the computer through the use of an online dictionary. No progress was observed for words without direct instructive support. Relationships were found between word reading and word meaning, showing the strong relationship between vocabulary learning and student comprehension of the story.

Segal-Drori, Korat, Shamir, and Klein (2009) also found that reading eBooks with adult instruction had a significant effect on students' emergent reading. They researched the effects eBooks and printed books, taught with and without adult instruction, had on students' emergent reading. Five to six year old students from low socio-economic status families were randomly assigned to one of four groups. They participated in four book reading sessions and their reading levels, phonological awareness, word reading, and concepts about print were tested before and after the sessions. The first group read an eBook independently. The second group read the eBook with adult instruction. The third group read a print book with adult instruction and the last group participated in the regular kindergarten reading

program. The group that read the eBook with adult instruction exhibited more progress in word reading and concepts about print compared to all other groups. The group that read eBooks with adult instruction had greater progress in phonological awareness than the groups that did the regular program and that read the eBook independently. There was no difference in phonological awareness between the groups that read the eBook with adult instruction and those that read the print book with adult instruction.

Features of eBooks have been shown to support decoding as well. Gong and Levy (2009) found that features of eBooks, specifically animations of print, like those found in eBooks, facilitated letter and print knowledge in emergent readers. They randomly assigned ninety-seven four-year old children in 12 pre-schools to four groups. The first group listened while the computer read a story. The second group heard a story like the first group except a ball bounced on each word as it was read. The third group was heard a story with a bouncing ball but included 2 unreadable items that the computer stopped on and inserted the correct word. The last group was just like the third, except that the computer stopped on the incorrect word and only continued if the child clicked on the incorrect word. Lessons spanned ten day. Days one and two included a pre-test followed by 6 storybook lessons and two more days of post-tests. They found that it was not enough to simply listen to a story. Student pointing to the print improved letter reading, but not knowledge about print. Students benefitted most when they paid attention to print, sound, and text together. Experience in discriminating readable and unreadable print was important

in learning about print conventions. EBooks can be set up to lead pre-schoolers to explore print.

Interestingly, Zucker, Moody, & Mckenna's (2009) previously discussed meta-analysis of eBook research and found no conclusive evidence regarding their support of student's decoding skills. Clearly, more research on the topic of eBooks and decoding is called for.

How eBooks Support Reading Comprehension

Zucker, Moody, and McKenna (2009) found preliminary evidence that eBooks support comprehension goals Pre-K to Grade 3 in their research synthesis of electronic books' effect on pre-K to grade five students' literacy outcomes. They conducted a research synthesis and found seven experimental studies, eleven quasi-experimental studies, and nine qualitative studies conducted on the topic of eBooks literacy outcomes between 1997 and 2007 that included participants in pre-kindergarten to fifth grade.

Other studies also confirm Zucker, Moody, and McKenna's (2009) findings. For example, Grimshaw, Dungworth, McKnight, and Morris (2007) studied 132 nine and ten year old English students to compare student comprehension and enjoyment of eBooks and print books. Students worked one-on-one with the researcher and read the same book, either a print version, an electronic version with narration, or an electronic version without narration. They took a comprehension test and an enjoyment survey after the lessons. The researchers found no significant difference in the students' enjoyment of the print or either electronic versions. Narration was

found to benefit students' ability to retrieve information and make inferences, thus significantly improving comprehension.

Negatives/Drawbacks of eBooks

More time may be needed to read eBooks and distracting features may be two negative factors of eBooks. Time may be an issue with eBooks because Grimshaw, Dungworth, McKnight, and Morris (2007) found that students took longer to read the same storybook in eBook format than they did the same printed version.

Some negative aspects to eBooks reflected in the studies may include, "distracting features such as animations and sounds unrelated to the story" (Zucker, Moody, and McKenna, 2009). This pertained especially to hotspots, animations that offered something, another linked page or a sound, for example, when the student clicked on it. Some of these hotspots were supportive and supplementary while others were unsupportive, incidental, distracting, and unrealistic.

In addition, while not necessarily negative, Zucker, Moody, and McKenna (2009) found a lack of consensus regarding eBooks' support of literacy development in all the studies. They found a need for more studies in the topics of decoding, which students truly benefit from eBooks, and which supportive features within the eBooks support what literacy outcomes. As indicated with all the other eBook topics, more research is necessary for this topic as well.

This research study explores how eBooks support young children's emergent literacy development. EBooks are the future of literacy and they are becoming more and more popular. EBooks are a new literacy and the theory of New Literacies is

central to this research study. New literacies are all the skills and strategies that allow us to use the Internet and other ICTs effectively. EBooks have new characteristics that require different comprehension processes and different instructional strategies EBooks vary in their design, characteristics, and features. EBooks can be read on computers or on a digital reading device. An eBook is a computerized text. EBooks are available in many languages and may contain instructional support and entertaining media features. There were varying results regarding eBooks' support of students' reading motivation and engagement in current research studies. EBooks have been found to support student comprehension. EBooks have been found to support decoding when coupled with instruction or adult support and features of eBooks have been shown to support decoding as well. More time needed to read eBooks and distracting features may be two negative factors regarding eBooks.

Chapter Three: Methods and Procedures

Introduction-

The focus of this research study is on the kinds and modes of eBooks available to elementary aged students, how they motivate students to read and write, and how they support students' decoding and comprehension skills. In this chapter, I will describe the context of the study and the participants taking part in the research. I will describe each of the data collection instruments used and how they will help to answer the research questions. I will outline the procedures that will be used to conduct the study and I will conclude with a description of the data analysis strategies that will be used.

Context and Participants-

This study was a home-based qualitative active inquiry. It took place as I tutored two students in a middle class home in a suburb in Upstate New York. The parents both grew up in the same town and attended the same public schools as the focal children. The mother is a guidance counselor at a local Catholic high school. Dad is an installer at a home remodeling company. They have another child who is three years old that I do not currently tutor. The family is active in their community. They have a strong family base living in town with them. Tutoring sessions take place in their living room and dining room. The dining room has a table with chairs while the living room has a large space to sit on the floor, a couch, a loveseat and a large coffee table.

The two students I studied are siblings and attend a public school around the corner from their home. They attend a sitter before and after school and in the summer. Student 1 is a 5 year old girl and entered kindergarten in the fall. She has been very shy in the past but has blossomed over the past year to the point that she seems to be adjusting well to half-day kindergarten. She enjoys reading and is interested in anything pink and having to do with princesses. Student 2 is a 7 year old male in the first grade. He likes to read, but would rather play video games. He is very interested in Super Mario, a video game character, and many of his thoughts, writings, and comments center around that character. He did very well in kindergarten last year and is in the highest level reading group in his class.

The teacher researcher is the author of this paper, Amy Flynn. I am a graduate student at The College at Brockport working toward a degree in Childhood Literacy. I tutor the two students twice a week in reading. I am also their aunt, their mother's sister. My family and I live in the same school district as the focal students.

Data Collection Instruments-

Several data collection instruments will be used to gather data in this study.

Informal Notes –

I will begin my research by looking at a nabi eReader, public library catalogs, TumbleBooks.com, and the Scholastic Books' website, www.scholastic.com. The students have access to eBooks through these things and I will be able to learn exactly what eBooks are available to them. I will take notes on how many eBooks are available

to these two students as well as the genres, topics, and other notes about modes of eBooks available to the students. Notes on the kinds and modes of eBooks will be taken throughout this research project.

Field Notes-

Formal field notes of each tutoring session will be recorded on the field notes sheet in Appendix D. These field notes will inform all of the research questions as they document student interest and engagement as well as their decoding skills and comprehension of what they have read. Notes on the modes and types of eBooks may also be found here.

Student artifacts-

Artifacts, such as students' writing, will provide insight into students' motivation and engagement, decoding skills, and comprehension of material.

Comprehension conversations-

Comprehension conversations are simple discussions about the book with the student after the running record is taken. It will inform the question of how eBooks support student comprehension and may also offer insight into student motivation and engagement.

Interviews-

Interviews with both parents and with the students will provide data for the research questions regarding the kinds and modes of eBooks as

well as data about student motivation and engagement. I will be asking questions about kinds and modes of eBooks the students' read and eliciting parent and student opinions and feelings about eBooks.

Table 3.1 Data Collection

Data Collection Instrument	Purpose
Informal Notes	Data will be collected about the kinds and modes of eBooks.
Field Notes	Data will be collected about all of the research questions as the tutoring sessions are formally recorded.
Student Artifacts	Data will be collected about student interest and engagement and comprehension of material.
Comprehension Conversation	Data will be collected about students' comprehension of what they have read and possibly motivation and engagement data may also be gleaned.
Student Interviews	Data will be collected about the kinds and modes of eBooks students are reading and their interest and engagement in them.

Procedures-

A thorough review of the eBooks available to the focal students' will occur first. EBooks available at the library will be cataloged in a journal. Notes will be

taken about book genre, topic, and any modes found through the catalog. The Scholastic Book website, Tumblebooks.com, and a nabi eReader the students own will be reviewed in the same manner recording notes about the eBooks offered in a journal.

The second phase of the study will be student and parent interviews. I will interview both parents and students about their opinions and feelings about eBooks. I will also ask questions about eBooks they own or have read in the past.

The final phase of the study will occur during four weeks of tutoring for two days each week. It will be just like a normal tutoring session except we will use eBooks instead of the traditional paper ones we normally use.

A typical tutoring session starts with my arrival to the home. I touch base with mom and then meet with the students. We catch up on what has been going on in their lives since we last met. I read a chapter or two from a book. Next, students read independently while I work with each one privately on a reading goal. I have a comprehension conversation about the book with each child. Snack is next, followed by writing about what they just read. I provide them with a writing prompt that has to do with what they read about. They write at least one sentence about it and can illustrate it if they want. I have the students do some sort of reading activity next, such as a reading game, hands on activity, or reading homework they brought from school. The reading activity may be done individually or as a group, depending on the activity. If we have time before the hour is up, I will read aloud more from the chapter book or from another book of the students' choosing.

Tutoring session: Sessions last for 1 hour. They are held two evenings per week from 6-7 pm.

Arrive- Catch up, talk about what's new at home and at school.

Read aloud- From a chapter book.

Independent reading/Mini lessons- Students start to read independently. Take 10 minutes with each student to listen to them read aloud or read with them. Do short mini-lessons based on personal target goals that were previously identified or on new goals that the child is struggling with currently. For example, student 2 is working on using more visual cues to identify words. I will do a short mini-lesson on that, modeling proficient reading behavior, supporting the student as necessary, and gradually giving the student more and more responsibility for this behavior.

Comprehension Conversation- Have an informal conversation about the book to ascertain comprehension each time you meet with each student.

Snack- Snack is provided by the family.

Writing- Students respond to a writing prompt about the book that they are currently reading. They illustrate what they wrote about by drawing a picture.

Reading/Writing Activity- For example, have the students play a reading game, write a story, or work on reading homework from school.

Read aloud- If time, read aloud more.

Parental permission will be ensured through a permission slip signed by a parent. Student and parent confidentiality is insured and protected. I have provided no identifying factors such as names of students or the town name of where they live. Data collected will be seen only by me and by the students' parents. It will be stored in a locked cabinet to which I hold the only key.

Data Analysis-

The kinds and modes of eBooks will be discovered through informal notes of library, nabi, TumbleBooks.com and Scholastic books catalogs. Modes of eBooks will also be discovered in the literature review in chapter 2. Student and parental interviews and field notes will add depth to the research and provide triangulation of data.

Students' motivation and engagement of eBooks will be researched by interviews. Field notes and informal notes taken during each tutoring sessions will also provide further information and increase validity and reliability.

The skill sets of decoding and comprehension will also be researched using at least three domains of data as to provide maximum validity and reliability. Students' decoding skills will be researched through field notes, student artifacts, and through informal notes. Students' comprehension skills will be researched through field

notes, student artifacts, and through comprehension conversations after each reading. Student artifacts made during tutoring sessions may be included as well if they inform decoding or comprehension data.

Each data collection instrument will be highlighted according to the following codes, each code being a different color, for a total of five colors, one for each research question. Codes will be kinds of eBooks, modes of eBooks, motivation and engagement, decoding, and comprehension. Highlighting data by a coding color will make it easy for me compile data together and triangulate it across several domains.

Table 3.2 Analytical Framework

Research Question	Data Collection Instrument	Coding
What kinds of e-books are read by elementary age students?	Informal notes Field notes Interviews	The coding will be kinds of eBooks and the highlighting color will be yellow.
What are modes used in e-books that are read by elementary age students?	Informal notes Field notes Interviews	The coding will be modes of eBooks and the highlighting color will be purple.
How do e-books motivate or engage students to read/write?	Field Notes Interview Student artifact Comprehension conversation	The coding will be motivation/engagement and the highlighting color will be green.
How do e-books support	Field notes	The coding will be decoding

decoding?	Student artifacts Informal notes	and the highlighting color will be pink.
How do e-books support comprehension?	Field notes Comprehension conversation Student artifacts Informal notes	The coding will be comprehension and the highlighting color will be blue.

Summary-

In this section, I have outlined context, participants, data collection instruments, procedures, and how the data are to be analyzed. In this study, the scope of eBooks available to students will be researched with a focus on motivation/engagement and how eBooks support decoding and comprehension.

This study took place during tutoring sessions with two elementary aged siblings in an Upstate New York middle class home. Data was collected through informal and field notes, student artifacts, comprehension conversations, and student and parent interviews. The study will begin with a review of eBooks available to the students. It will continue with tutoring sessions in which we will be reading eBooks instead of the paper kind we normally read. Data analysis will include coding the data and triangulating it across several domains in order to answer each research question.

Chapter Four: Interpretation of Data

Introduction

The scope of eBooks available to students was researched with a focus on motivation/engagement and how eBooks support decoding and comprehension. Research questions include what kinds of eBooks are read by elementary age students, what kinds of modes (ex: images, sounds, colors, etc) do eBooks use, how do eBooks motivate or engage students to read/write, how do eBooks support decoding and finally, how do eBooks support comprehension? Data collection instruments included field notes, informal notes, comprehension conversation, student artifacts, and student pre and post interviews.

The two students I studied are siblings and attend a public school. Student 1 is a 5 year old girl and entered kindergarten in the fall. Student 2 is a 7 year old male in the first grade. They both are in the highest level reading group in both their respective classes.

Kinds and Modes of eBooks

TumbleBooks, public library eBooks, EBooks on a Nabi ereader, and Storia eBooks were researched to see what kinds of modes and features they had.

TumbleBooks

The students' school subscribes to TumbleBooks, a website featuring eBooks for kids found at www.tumblebooks.com. They can be accessed on any home or school computer that has internet that has a Flash plug-in (this is preloaded on most computers). The teachers share the user name and password with parents so that

they can log in and have their children read the eBooks at home. According to their website, The TumbleBookLibrary is an online collection of animated, talking books. They have storybook titles from publishers such as HarperCollins, Simon & Schuster, Candlewick, and more. TumbleBooks loads right away on your computer after you log-in and eBooks download automatically. The students read the TumbleBooks on a Lenovo laptop computer.

Figure 4.1 TumbleBook Library Home Page

Subscriptions to TumbleBooks cost $499 per school per year. The website has 300 TumbleBooks, 200 iPad compatible books, 23 Read-Along Chapter Books, 160 TumbleGames, 50 non-fiction books, and 50 videos. Read-Along books are chapter books featuring narration, sentence highlighting, and automatic page turning. Videos are created along with National Geographic and support the Core Curriculum Standards. They cover content subjects like Geography, Social Studies, and Science. Videos go along with the non-fiction titles as well. For $99 more per year, teachers can purchase the Read-Along and Graphic Novel Add-on Bundle which includes 60 additional books.

When reading a storybook, students can choose either automatic or manual modes by clicking a button. In the automatic mode, pages turn by themselves and the book is narrated. In the manual mode, students turn the pages at their own pace but the animations and narration continues. Storybooks can be muted so students can read to themselves by pressing the sound on/off button; however the words will continue to be highlighted as the book would have read it aloud. Students or teachers can also use the pause button to stop the story at any time. Puzzles and games accompany each book that reinforces concepts learned.

Tumblebooks also offers a TumbleTV option which introduces various TumbleBooks through a silly host, Tommy Tumble. This can be helpful when students are previewing books, looking for a book, and also for increasing students' motivation to read by getting them excited about the book. With TumbleMailer, students can email other people TumbleCards or TumbleBooks to family and friends. With the Record-a-Book feature, students can narrate and record their own book. Some TumbleBooks are offered in Spanish and French. Many are bilingual and are written in English as well. The entire website can be viewed in either Spanish or French by choosing the language in the drop down menu.

With TumbleSearch, students can search for information on the site by author, title, publisher, or language. Teachers or students can search by reading levels as well as by subject.

EBooks can be saved on playlists, which are preloaded books that can be read one after the other. Alternatively, TumbleBooks has a "My Favorites" section that is

cookied onto individual computers where students can bookmark their favorite books for future reading.

TumbleBooks has several features for teachers with their paid subscription. There are educator's resources that are teacher guides including themes, activities, and units teachers can use. Lesson plans that go along with the books to accommodate different reading levels and needs are offered. TumbleQuizzes are animated multiple choice test that students take right after reading to assess comprehension. Finally, with a paid subscription, students can create their own book reports.

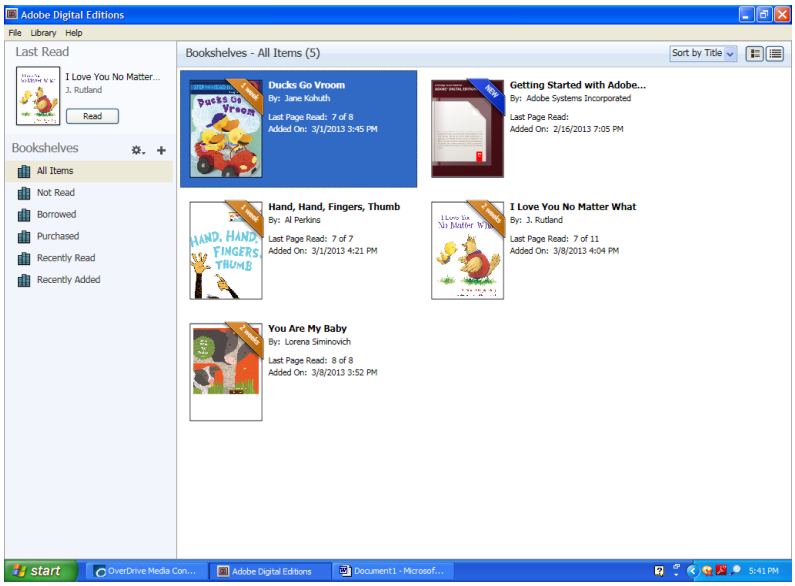
TumbleBooks can be searched for or sorted by title, language, author, publisher, reading level, subject, books with videos, and picture books. Categories of books include alphabet and reading, early readers, friends and family, Robert Munsch, playlists, Tumble TV, new books, unit plans, and nonfiction. They are instantly downloaded when you click on a title. In auto mode, the story is narrated with the words being highlighted as they are read and the pages turn by themselves. Auto mode can be turned off by muting the narration, but words will still be highlighted as they are being read by the device even though the students cannot hear it.

Public Library eBooks

The student's public library offers eBooks for borrowing. They come in several formats and can be played on many different kinds of eBook readers. The one we used is a free download from Adobe called Adobe Digital Editions Home version. EBooks are viewed and managed on it and it was downloaded to a home desk computer. Users will have to register. They will be asked for their name, country, and email for registering and they will have to create an Adobe ID.

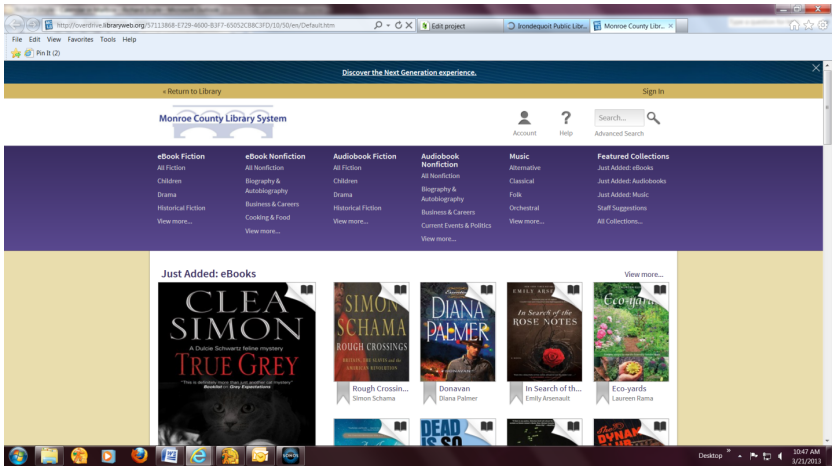
The Adobe reader took several minutes to download and downloading books after you borrow them took about a minute or two. To borrow a book, click the word borrow next to the book. You will be asked for your library card number and your name. The limit for borrowing eBooks is a total of four books per library card so I was only able to have two books per students at a time. The students read the Adobe Reader on a Dell Desktop computer. Once books are borrowed, a ribbon sits over each book telling you how many days you have left to borrow the book.

Figure 4.2 Adobe Digital Editions Library Books Borrowed Page



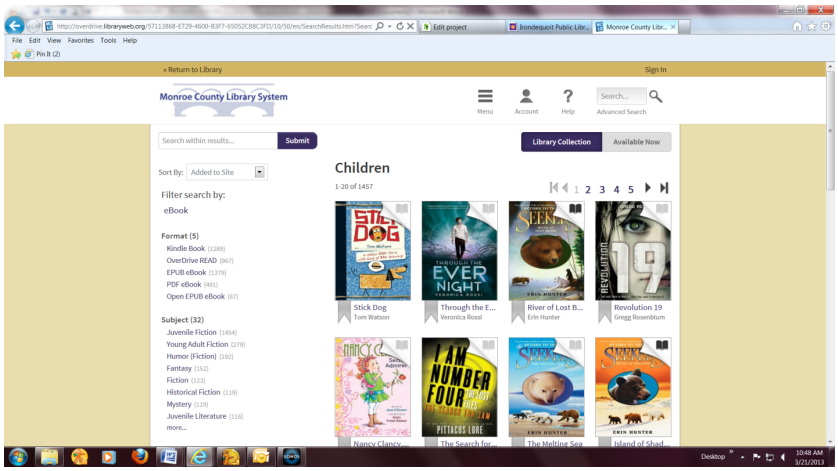
The Adobe Reader has several features. Readers can bookmark pages for going back to later. They can also highlight text and take notes for future reference. Books can be printed using the eReader. Adobe Digital Editions Home offers eReaders in English, French, German, Dutch, Brazilian Portugese, Korean, Chinese simplified, and Chinese traditional, Italian, and Spanish.

Figure 4.3 Public Library EBook Home Page



EBooks have their own place in the library website to search. When you click on eBooks from the main page, you come to a special eBook page. Along the left side are always optional search topics under the headings Audiobook Fiction, Audiobook Nonfiction, eBook Fiction, eBook Nonfiction, Music, and Collections. Children's categories are only under Audiobook fiction and eBook fiction. I could not find a book at their reading level in either nonfiction categories. Within the children's categories, the books can be furthered narrowed down and searched for by title, creator, release date, date added to site, and most popular.

Figure 4.4 Children's eBook Public Library Home Page

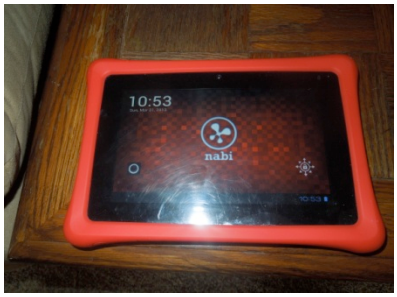


The local library shares the eBooks database with the whole county (Monroe County in this case). It is not a strictly local database. When I searched children's eBook fiction, it came up with 1457 eBooks in the following categories: format, subject, publisher, language, grade level, rating, and device. Clicking on children in the Audiobooks, books that include optional read aloud or narration, it came up with 295 eBooks in the same categories as its eBook database.

Nonfiction children's eBooks were unavailable for children's reading levels but some nonfiction adult audiobooks may be appropriate for the students to listen to. A search for children's eBook nonfiction gives several Magic Tree House books by Mary Pope Osbourne. These books are not nonfiction. Rather, they are fiction chapter books which include some nonfiction historical elements.

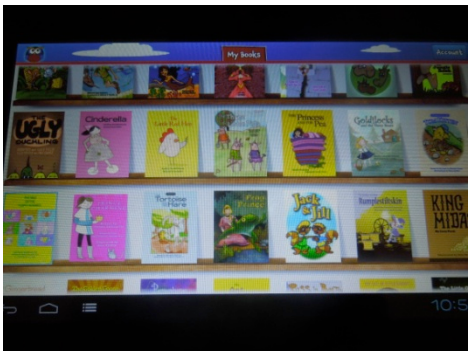
nabi eBooks

Figure 4.5 Picture of a nabi eReader



The nabi is basically an iPad or tablet for kids. It has a 7" touch screen and a 3D processor. Children can do almost everything an adult would do on their iPad or tablet, but nabi is targeted to children. Students can listen to music, surf the internet, read eBooks, play games and more. The nabi comes with an app called MeeGenius, which has both an eReader and an eBook store where books can be purchased to read. It comes with six pre-loaded books. You can get 24 more free eBooks through the MeeGenius app. Titles include many classics like Jack and the Beanstalk or The Gingerbread Man. You are required to make a nabi ID before using the nabi for the first time. The eReader is pre-loaded on the nabi, loading other eBooks take one to two minutes each book to upload.

Figure 4.6 nabi eBook Home Page



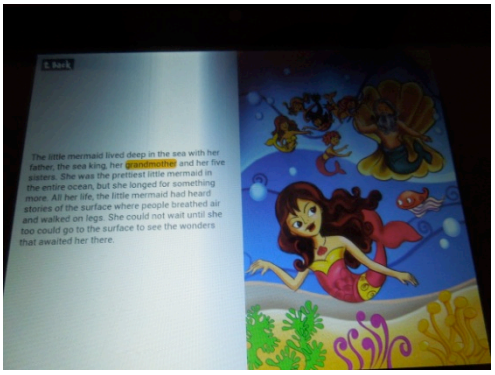
The nabi comes equipped with a camera, a headphone jack for silent listening, and a touch screen interactive display. It has Fooz Kids University which features educational activities, Fooz Kids Videos, and Fooz Kids Web, which will only take them to kid friendly websites, and a large Music section.

Nabi has a parent mode that disables all the kid friendly safeguards and works like a regular tablet when kid's nabi is turned off. Parents must use a password to get to this parent option. In regular nabi mode, students can only use the pre-approved, kid-friendly content.

Nabi eBooks come as Read-Alongs, which include optional narration that can be turned on and off. Orientation can be changed on the nabi just by turning or rotating it so students can read using the portrait or landscape orientations, according to their preference. To open an item, children simply tap it. To move an item, tap the touch and hold the item as you move it. To move vertically or horizontally across the screen, swipe your fingers to the left or right, top or bottom direction you want to move in. The screen can be zoomed in or out by putting two fingers on the screen and making them wider for a wider screen or making your fingers smaller for a

smaller one. Sleep Mode goes on when the nabi hasn't been used in a while but is turned off when the power button is pressed.

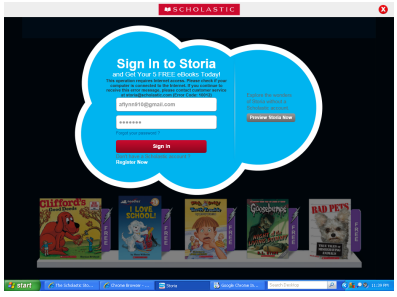
Figure 4.7 nabi eBook The Little Mermaid



Storia

Storia is an eBook reader by Scholastic available on PC computers supported by Windows, an ipad or an Android. It offers thousands of titles in both fiction and non-fiction. You must register with you name address and email address with Scholastic before downloading the free reader. Storia takes about ten to fifteen minutes to download the reader itself. Books take about two to three minutes to download. Students read Storia on a Lenovo laptop computer.

Figure 4.8 Storia Sign in Page



Books come at a cost, but Storia comes with five free books, Bad Pets by Allan Zullo, Goosebumps: Night of the Living Dummy by R. L. Stine, Clifford's Good Deeds by Norman Bridwell, Noodles: I Love School by Hans Wilhelm, and Ready Freddy: Tooth Trouble by Abby Klein.

Other eBooks are available to purchase at a cost. I purchased Hello Reader 1: Mud for $4.31 in February of 2013. I checked the price again for the same book and it was $3.99. I purchased the Old Lady Who Swallowed a Bell by Lucille Colandro for what Scholastic said was a 20% off price of $4.97. The Worst Best Friend, by Alexis O'Neill was originally $16.99 and Scholastic had it discounted 71% at $4.99.

The eBooks are just like the printed version of the book, except the eBooks included narration, music, sound effects, note-taking, and highlighted text. The read-to-me, drawing tool, and notes features are available in the picture books and leveled readers. The highlighter and notes features are only available in the Chapter books. The read-to-me option has the words highlighted as they are narrated aloud to the student.

The note-taking tool allows readers to add comments or questions to any chapter or young adult book. Notes are saved for each reader. The highlighter can be used to highlight text to come back to later. A Zoom feature gives the reader the option of enlarging or decreasing illustrations and text. Teachers have the ability to turn on and off certain features to customize the reading experience.

Storia eBooks are categorized for easy searching. Results can be refined by choosing options to the left side of the screen. There are age groups, Birth to age

two, ages three to five, ages six to eight, and the highest age group is 9 and over. Product type is divided into eBooks, enriched eBooks, Classroom eCollections, Value ePacks, and Harry Potter. Classroom eCollections are packages of books available according to age, theme or category. Value eBooks are eBooks available for sale at a discounted price. Characters and Series can be shown under the categories Harry Potter, Clifford, Magic School Bus, Main Street, Candy Apple, and How I Survived Middle School. Grade level categories are babies and toddlers, Pre-K, Grades K-1, Grades 2-3, Grades 4-6, Grades 7 -9, and Teen. Some but not all books are categorized by Lexile Level.

There are also some enriched Storia eBooks available that come with activities and games to enrich students' reading such as words games, illustrative puzzles, and videos that extend the content of the eBook. Enriched stories are identified by a lightning bolt icon. Activities include language games like word searches or word scrambles and memory and sequencing challenges. Scratch and See for example, asks students to guess and illustration before it is fully revealed, which Scholastic says is a good way to practice retention and enhance comprehension of picture books (Zimmerman & Tomasello, 2012). Starting letters ask students to tap the illustrations that begin with a specific letter, which Scholastic says reinforces phonemic awareness using authentic vocabulary (Zimmerman & Tomasello, 2012).

Figure 4.9 Storia eBook page from The Worst Best Friend

Storia comes with a dictionary. Students touch a word and the dictionary offers a definition for the word using words, pictures, and narration. Storia comes with a Reading Manager as well. Individual bookshelves can be made for each students so and books can be assigned to each child based on students' interest and reading level. Only one child gets a copy of the book at a time, so if you want to assign another child to read the book, another book has to be purchased. Reading Reports keep track of what up to 40 students are reading, the time spent reading, and the last twenty-five words that they looked up in the dictionary. The Reading Manager requires a password so that only the parent or teacher using it can see it.

How eBooks Support Reading Engagement and Motivation

The students had different opinions about eBooks and how eBooks supported their reading. One liked the eBooks and one liked paper books better.

Student 1 was not very familiar with eBooks when we first began this research. He said that he did not have any eBooks at school or at home. He said he had never read any when asked what kinds of eBooks he liked to read. He did say that he liked to read both eBooks and paper books even though he had never read

any. When I asked him why, he said, “Because they are both books and I like reading books.”

After reading the eBooks with me during our tutoring, he became more familiar with eBooks and realized that he had read several on the computer at school. He still said that he did not have any eBooks at home even though he does have them on his nabi and we read them so he was familiar with them. He said that his favorite eBooks to read were about animals. He said that he likes eBooks because they are electronic and he likes electronic things. He said that he doesn’t like eBooks because he does not like to read. He reported that he preferred paper books to eBooks because page turning “wasn’t so confusing” in paper books. When questioned further he said that you didn’t have to press anything, the page turned when you turned it. He did acknowledge that eBooks helped him learn to read because, “Any reading I do makes me a better reader.”

Student 1 did not like reading eBooks on TumbleBooks and said so to me while we were reading them. When I asked him why, he said that they distracted him and it made it hard for him to read. I questioned him further and he said that he paid so much attention to the picture that it was hard for him to read the words.

Student 2 was familiar with eBooks when we began working because she had just started reading them on her nabi, she said. She said that she didn’t read any in school. When asked what kind of eBooks she liked to read she reported, “Sleeping Beauty kind of books with a witch.” She said that she liked eBooks because she liked looking at the pictures. She reported that she liked reading eBooks more than paper

books because, “They are easier to read and have less words.” She wasn’t sure how eBooks would help her learn to read.

In the post-test, she was still not reading any books at school but again reported that she read eBooks at home on her nabi. She said that she liked to read Princess and the Pea and The Little Mermaid type books on her nabi. She reported that she liked eBooks because, “I can learn to read.” I questioned her further on this answer and she said that the eBooks, “Sound out and read hard words for her.” There was nothing that she didn’t like about eBooks saying, “I just like them” She still did not feel that eBooks were real books because, “They are electronic.” She said that she preferred eBooks to paper books because, “You don’t have to flip the page, you just push a button.”

The book, the Three Little Pigs, by Richard Updike was a good book for Student 2 to read with the Read to Me option on the nabi. She was familiar with the phrasing in the popular children’s story so she was able to read along when it came to the phrases, “Little pig, little pig, let me in,” and “Not by the hair on my chinny chin chin.” This made her feel happy and successful and like she was a great reader. This was great for her reading motivation and also her own reading self-esteem.

The two students had different opinions on the eBooks. Student 1 did not like eBooks better than paper because he found them distracting and he did not find an advantage in them over the paper books. Student 2 reported that she preferred eBooks over paper books because she did find value in and learned from the read aloud feature of the eBooks. She found that it supported her early decoding skills and

gave her more confidence in her reading. Student 1 was not interested in reading eBooks because they distracted him and was not beneficial to his decoding.

How eBooks Support Decoding

There were aspects of the eBook readers that aided the children in decoding and there were some aspects that interfered or made decoding harder for them.

Student 1 did not need to use his finger to ensure one to one matching but still lost his place many times because of the design of the eReaders. The screens in the desktop for the Library eReader and the laptop computer were farther away from him than a normal book would be and this seemed to make him lose track of what lines he was reading. He kept putting his finger near where he was supposed to read next because he had trouble telling which line to read. The lines on the screen were hard to track with just his eye alone. For example, he read the library book on the Adobe Reader, Ducks Go Vroom, by Jane Kohuth. It has double pages, meaning you can see both right and left pages on the screen like in the paper book version. However, the words on the page were in different places every time. The font kept changing as well. On one page, the word you had a weird cartoon y that he had to ask me what letter it was.

For student 1, he would switch to Read-Aloud when he wasn't sure about a word. Then, he could see the word highlighted and hear how to correctly pronounce it. For example, on the nabi, he didn't know the word icing when he came to it while reading the book, Jack and Jill by Mother Goose. He pushed the Read to Me button and the book read the word icing to him. He then turned the Read to Me option off

and continued reading independently. On all future readings of the word icing in the book, he read correctly. This indicates that he had learned the word.

TumbleBooks were a little confusing for student 1 in regard to decoding. The words are highlighted even when the narration is muted. Therefore, words are being highlighted not according to how he was reading. For example, when he would still be on the first sentence, but the book was highlighting words in the second sentence already. This was very distracting for him. I told him to wait a minute until the words stopped being highlighted on the page before he started reading each time he turned the page. He did not like having to wait to read.

Finding books at student 2's reading level was challenging for all of the eReaders. She is at such an low, early reading level that it was very hard to find books that were at her independent reading level. Some of the eReaders had no books available at her independent level and we read those aloud together or listened to the Read Along versions. For example, the easiest reading book that I could find on any eReader was the Storia book The Big Bug Dug, by Mary Serfozo. As the easiest book, it was still a word by word struggle for her to read the book and it was at a frustrational reading level for her. I offered to have her stop reading and read the rest to her but she liked the book and wanted to read more. I showed her how to turn on the read to me option and she listened to the remainder of the book. Nabi also had no books at her reading level and she listened to those read aloud as well. Tumblebooks' lowest level book was Biscuit by Alyssa Satin Capucilli which she could read with heavy support from me but not independently.

Finding appropriate library books for the kindergartener to read was also challenging. Searches for lexile or lexile level yielded no results. Beginning reader searches turned up no books appropriate for the kindergarten level students. Clicking on the lowest grade level, pre-kindergarten gives nine book choices, none of which were appropriate for her. For example, one eBook suggested by the public library on their list for pre-kindergarten readers was The Bunnicula Collection by James Howe (2006), which is a collection of chapter books. One of the eBooks is about a vampire bunny, the topic nor chapter book reading level are appropriate for preschoolers and I don't know why it was put in this category.

Student 2 had trouble decoding at points because they lost track of the words on the page. In student 2's case, she relies heavily on using her finger under each word to ensure voice to print match because she is an early reader, this is an acceptable and often used scaffold. The design of the Storia on a laptop computer and the library eReader on the desktop computer meant that she had to touch a screen that was not designed to be touched. This left the screen with greasy fingerprints that got in the way the next time that she tried to read. It was very necessary for her to use her finger, so I showed her how to use a capped pen to keep her place by putting under the words on the screen she is reading. For example, she kept misreading and mixing up the words dum and drum in the Adobe Reader book, Hands, Hands, Fingers, Thumb by Al Perkins (1969). When she used the pen to keep her eyes on the correct word, she was able to notice that dum did not have a r but drum did and read the words correctly.

The Read to Me or narration options in the eReaders helped both students with decoding. On the nabi, student 2 listened to The Little Mermaid adapted by Meg Malm read aloud to her as she watched the words highlighted on the screen as they were read. This familiarizes her with what words sound and look like to store in her brain for future reading. She can take notice of spellings, grammar, writing craft, and more by looking at each word, seeing how sentences are written and listening to how words sound. By listening to the TumbleBook, Biscuit by Alyssa Satin Capucilli, she saw and heard the word time read so often that she told me she now knew how to read the word. I asked her to identify the word in another book the next time we met together and she did indeed know how to read it.

On the books student 2 was able to read, she used sounding out a great deal to decode words. For example, she sounded out, "drumming on a drum," in the library book Hands, Hands, Fingers, Thumb by Jane Kohuth and the word drink in the TumbleBook, Biscuit by Alyssa Satin Capucilli.

Figure 4.10 Page from Hand, Hand, Fingers, Thumb eBook

Technological issues can happen with any computerized device and eReaders are no exception. There were many technological issues that interfered

with the students' reading. The Storia eReader was a nightmare for me at first. The first book that we tried to read was The Big Bug Dug, by Mary Serfozo for student 2. I did not preview the book before looking at it with the students. We couldn't see parts of the book. The whole bottom and side of the book were below the scope of the screen and nothing we did would move it so we could see it. After the tutoring session, I was able to fix the problem. On my laptop, I had the icon size at medium and the screen resolution on high. I needed to use the default settings that came with Windows to see Storia, which are small size icons and 1366 x 768 screen resolution. By choosing to use the default settings, the whole book could now be seen on the full computer screen.

Next I downloaded the dictionary that comes with Storia. I was very excited to show the kids how to use it because I thought it would be an aid to them for their comprehension of the stories they read. It took over ten minutes to download. The next time I tried to read with the kids, Storia would not open up at all. I tried restarting my computer. I followed the directions on the trouble-shooter for Storia and downloaded a new version and deleted the old one but I still couldn't use it. It just kept saying there was an error and to down load a new version. Finally, out of desperation, I just downloaded it onto my older desktop computer instead and it worked. I later read while researching the nabi that,

> "CAUTION- Do not download the 400MB dictionary at this point in time. Besides taking up a large percentage of memory, action a activating the dictionary while reading a story can cause the app to crash on the nabi 2

> tablet. This is most likely why the installation of the app is restricted currently to only a few Android devices." ("Everythingnabi", 2012, para. 9)

I did not download the dictionary to the new desktop edition and it worked fine after that. The lack of dictionary was disappointing because that was the only eReader that offered one that we used and I thought that it would be beneficial for the students.

Font was a problem with the Adobe Reader. It started at small font, which student 2 found hard to read during her reading of Hand, Hand, Fingers, Thumb, by Al Perkins. I showed her how to adjust the font to medium, large, or extra large. The problem was that anything above small font made the book too big to see on one screen. The student then had to read a line and scroll down the page to read the rest of the lines. The only font that made the page stay correctly on the screen was small so that was what we used even though it was harder to see. Student 1 noticed that we had played with the font and played with it instead of reading the next time he read and while trying other versions of eReaders. It was more of a distraction than a help.

Finding an eBook at student 1's reading level was challenging. Both students lost track of the words on the page at times. Technological issues interfered with book reading several times. The Read to Me narration options helped both students with word decoding, especially the kindergarten student. Animations were very distracting for the first grade student.

How eBooks Support Reading Comprehension

During my tutoring sessions, I felt that it was important for students decoding and comprehension to preview each book before students read them on their own. That way, I could discuss unfamiliar concepts or vocabulary words, take a picture walk with them and talk about anything that may be confusing. This helped them with decoding and also comprehension and is just as important for student's successful reading with eBooks as it has always been with traditional paper ones.

Both students did well in all comprehension conversations and answered my questions satisfactorily. They had trouble remembering some things, which is understandable because most of the time, they only read the book once before we talked about meaning. Student 1 would go back and look up some answers, which I allowed because I was looking for his comprehension of the story, not whether he had memorized it. He went back and looked up what happened at the end of Jack and Jill by Mother Goose in the nabi reader, for example. He correctly answered the question that both Jack and Jill promised not to argue again.

It was necessary to spend time with each pre-teaching how to use each devices and the features that came with it to help them with comprehension of what they were reading. Each device, while having similar features, also had some unique features or slightly different ways of using it. For example, to turn a Storia, Adobe Reader, or TumbleBooks page, you have to click on an arrow that points to the right. On the nabi, they had to turn pages by swiping their finger on the page in the direction they wanted to turn it. Other features of the eReaders, like the table of

contents on the Adobe Reader, needed to be introduced and students needed to be shown how to use them so that they can take advantage of the features. In addition, for each device, both students had to be shown how to turn on and off the Read to Me or narration features of the books so that they could read silently to themselves when they wanted to.

Read-Aloud or narration of the eBooks helped both students with understanding what they read. On the nabi, student 2 read The Three Little Pigs by Richard Updike using the Read to Me option. This book was very advanced for her both in reading level and vocabulary but was also at a higher comprehension level than what she is used to. The Read to Me option allowed her to read the book and be exposed to new words and vocabulary. She understood it because, as with most people, her listening comprehension is better than her reading comprehension. In other words, she could understand what she was listening to but would not be able to understand it even if she was able to decode it for herself. She understood even unfamiliar concepts in the book, such as the ending in which the pigs and the wolf have tea. This is very different from other versions she has read in which the wolf in burned by the fire when he goes down the chimney. She showed excellent comprehension of what she read when she remembered that they became friends at the end of the eBook.

Even though the TumbleBook, Biscuit was challenging for student 2, there were parts she could read so we read the book together, with me assisting her. She was able to remember all of the details from the book, according to our

comprehension conversation, in order. She named in the correct order everything Biscuit wanted before bed, such as a blanket, food, a story, a hug, a kiss, and finally, one more hug and kiss.

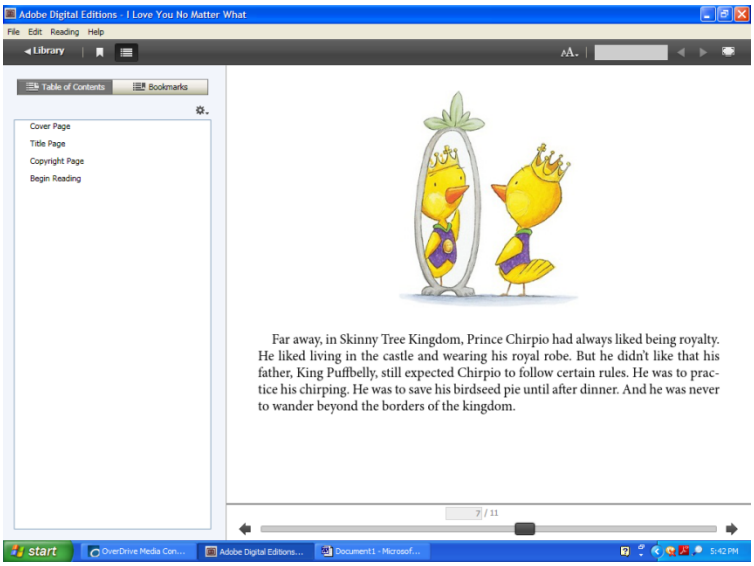
Looking at the pictures or illustrations that went along with the stories helped the student's comprehension as well as decoding of the words. For example, student 2 read the words, "rings on fingers" correctly in the book Hands, Hands, Fingers, Thumb by Al Perkins because she could see that the picture was of rings on some fingers in the picture on the page. Student 1 also used the pictures as meaning cues when he read the TumbleBooks book, Big and Little by Kathy Stinson identifying the word pyjamas. It was spelled with a y, which is different from the way he has seen the word written, pajamas. He used the picture of a boy putting his pajamas on to identify the strange word.

TumbleBooks animations were confusing for student 1. The animations move so what is on the page in one moment may not be in the next. For example, on one page, the book Big and Little by Kathy Stinson, it says, "look at the button". By the time he read the sentence, the picture of the button was not on the page and he asked, "What button?"

During a couple of our comprehension conversations, student 1 would consult the Table of Contents that was available on the library book eReader. Each section of the book was listed in a menu bar along the left side of the page. When he was unsure about a question, he would click the section that question was in to try to look up the answer. I also showed him how to type in words in the search box on top

of the page. When a word is typed into the search box, you are brought to the page (or pages) with that word on it. The word is highlighted for easy finding. For example, I asked him, “Who said yak, yak?” He did not remember but typed in yak in the search box which brought him to the correct page on which he found the correct answer, the blue duck.

Figure 4.11 Example of an eBook with a Table of Contents feature



I noticed that both students were challenged by having to infer how the characters felt. For example, Student 2 was not sure how the wolf would feel about the ending in the Three Little Pigs by Richard Updike, which had him sharing food with the three pigs. I then asked her how she would feel to be sharing food with the three pigs and she said happy. I asked if she thought the pig would feel the same way and she said yes even though I could tell she was not sure about it. Student 1 also was confused by inferences. For example, in the TumbleBook Big and Little by Kathy Stinson, the bed is wet when the boy wakes up and students are supposed to

inference that the boy peed in bed during the night. Pre-teaching of eReader features and previewing the eBook help student comprehend the stories. Student comprehension was aided by the narration features of the eReaders. Use of the Table of Contents and picture cues also contributed to their understanding of eBooks. Animations in TumbleBooks interfered with student one's comprehension.

Summary-

This chapter described the study results. Kinds and modes of eBooks found were discussed. Ways that eBooks supported the students' reading engagement and motivation were found. Finally, how eBooks supported the students reading decoding and comprehension were reviewed.

Chapter Five: Summaries, Conclusions, and Recommendations

Introduction

This study examined the different kinds of eBooks available to two students in a suburb in upstate New York. The study looked at the modes of eBooks and how those features supported the student's motivation and engagement as well as decoding and comprehension. Students read eBooks during hour long tutoring sessions twice a week and data was collected through several sources. It was found that some features of eBooks support student's decoding and comprehension, while some modes of eBooks did not. One student enjoyed reading the eBooks and was motivated by them while the other enjoyed reading paper books better and was not motivated by the eBooks.

It was found that some features of eBooks support student's decoding and comprehension, while some modes of eBooks did not. Pre-teaching of eReader features and previewing the eBook help student comprehend the stories. Student comprehension was aided by the narration features of the eReaders, however animations in TumbleBooks interfered with one student's comprehension. Use of the Table of Contents and picture cues also contributed to their understanding of eBooks. Finding an eBook at student 1's reading level was challenging. Both students lost track of the words on the page at times. Technological issues interfered with book reading several times. The Read to Me narration options helped both students with word decoding, especially the beginning reader.

Conclusions

The design and modes of eBooks varied greatly. Teachers need to be familiar with each one before using it to teach. Professional development in the kinds and modes of eBooks is needed for teachers. It is also important to note that students need to be taught how to use the eBook and its features before using it.

There were few to no eBooks for beginning readers to read independently in each of the types of eBooks and more are needed. The eBooks' Read to Me options helped both students decoding and comprehension as they watched the words highlighted as the eBook read them aloud. On the other hand, the animations in TumbleBooks and the highlighting word feature in other eBook readers interfered with the first grader's decoding and comprehension. The design of the nabi eReader worked best for using a finger underneath words when reading as the beginning reader wanted to do. It was also the best design for Read Aloud because the child could sit on my lap. They couldn't do this easily on the desktop or laptop computers. It was interesting that student one preferred paper books because of the way pages were turned and student two preferred eBooks because of how they were turned as well. This seems to be a matter of taste and preference that may be different for each individual child.

Implications for Future Teaching

Ebooks need to be chosen for students so that they are appropriate for them and at their level. This is very challenging in many eReaders as they are not leveled

or books at your student's level may not even be offered. Teachers need to spend time going through each book. In addition, teachers need to check each eBook for formatting issues before giving it to the student to read. Each eBook reader and its features should be pre-taught to each student before they read. Each book should also be previewed by each student to ensure high-quality reading and comprehension.

Using eBooks is a great way to incorporate technology into the classroom and meet the new common Core Standards regarding technology. Beginning readers will benefit from hearing the word read to them and seeing it highlighted through the eReaders. This could be a very valuable center during readers' workshop or during free choice time. Letting parents know how to access the library's free eBooks can encourage more reading at home.

Preferences for paper or electronic books seem to be personal and different for each child. Teachers should use whichever books motivate and engage their own students. Be aware that some features of eBooks may be distracting to some students. Choose your eBook readers with care. Do not try to download and use the Storia dictionary.

Recommendations for Future Researchers

More research is needed in several areas. As discussed in the literature review, more research is needed on how eBooks support students' decoding skills. More research could be done on EBooks' effect on beginning readers decoding and comprehension in Read to Me mode. It may be that they learn a great deal from watching the words highlighted as they hear the word read to them.

There were limitations to this study. The small sample size of two participants may not translate to larger populations. The two students are young and results may not be the same for older readers. The students live in a suburb so results may differ in urban or rural settings. Other eReaders, such as Kindles, Nooks, and more were not tested and these results cannot be transferred to other eReaders.

References

Almaguer, I.A. & Pena, C. (2010). Electronic books: Fostering emergent literacy in early childhood education. *International Journal of Instructional Media. 37*(3), 291-300.

Bridwell, N. (2010). *Clifford's good deeds*. [Storia version]. Retrieved on February 3, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=cliffords+good+deeds&x=0&y=0

Capucilli, A. S. (1997). *Biscuit* [TumbleBook version]. Retrieved on February 18, 2013 from www.tumblebooks.com

Cavanaugh, T. (2002). EBooks and accommodations: Is this the future of print accommodations? *Teaching Exceptional Children, 35*(2), 56-61.

Colandro, L. (2008). *The old lady who swallowed a bell* [Storia version]. Retrieved on January 20, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=old+lady+swallowed+bell&x=0&y=0

Clampa, K. (2012). ICANREAD: The effects of an online reading program on Grade 1 Students' engagement and comprehension strategy use. *Journal of Research on Technology in Education, 45*(1), 27-59.

Coiro, J. (2003). Reading comprehension on the Internet: Expanding our understanding of reading comprehension to encompass new literacies. *The Reading Teacher, 56*(5), 458-464.

Defining comprehension. (n.d.) Retrieved on December 3, 2012 from http://www.rand.org/content/dam/rand/pubs/monograph_reports/MR1465/MR1465.ch2.pdf

Ebook. (n.d.). In *Merriam-Webster's online dictionary*. Retrieved on November 25, 2012 from http://www.merriam-webster.com/dictionary/e-book

Everythingnabi. (2012). Retrieved on March 14, 2013 from everythingnabi-appzone.blogspot.com/2012/11/scholastic-**storia**.html

Gong, Z., & Levy, B.A. (2008). Four year old children's acquisition of print knowledge during electronic storybook reading. *Read Writ, 22*, 889-905.

Goose, M. (n.d.). *Jack and jill* [nabi version].

Grimshaw, S., Dungsworth, N., McKnight, C., & Morris, A. (2007). Electronic books: Children's reading and comprehension. *British Journal of Educational Technology, 38*(4), 583-599.

Howe, J. (2006). *The Bunnicula collection* [Adobe Digital Edition version]. Retrieved on March 11, 2013 from http://overdrive.libraryweb.org/D10E9860-5AE7-4C9F-8ECF-29795C28A9A6/10/50/en/SearchResults.htm?SearchID=9361222s

International Reading Association. (2009). *New literacies and 21st century technologies.* Retrieved on October 30, 2012 from

http://www.reading.org/General/AboutIRS/PositionStatements/21stCebturyLiteracies.aspx

Jones, T., & Brown, C. (2011). Reading Engagement: A comparison between e-books and traditional print books in an elementary classroom. *International Journal of Instruction, 4*(2), 5-22.

Klein, A. (2004.) *Ready Freddy:Tooth trouble* [Storia version]. Retrieved on January 24, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=freddy+tooth+trouble&x=0&y=0

Korat, O., & Shamir, A. (2012) Direct and indirect teaching: Using e-books for supporting vocabulary, word reading, and story comprehension for young children. *Journal of Educational Computing Research, 46*(2), 135-152.

Kohuth, J. (2011). *Ducks go vroom* [Adobe Digital editions version]. Retrieved on February 10, 2013 from http://overdrive.libraryweb.org/D10E9860-5AE7-4C9F-8ECF-29795C28A9A6/10/50/en/ContentDetails.htm?id=7A6D3BCD-122F-4023-BBE5-4C48D0690F8F

Lamb, A., & Johnson, L. (2011). Nurturing a new brand of reader: Five real world issues. *Teacher Librarian 39(*1), 56-63.

Larson, L. C. (2010). Digital readers: The next chapter in e-Book reading response. *The Reading Teacher, 64*(10), 15-22.

Leu, D., Kinzer, C., Coiro, J., & Cammarack, D. (2004). Toward a theory of new literacies emerging from the internet and other information and communication technologies. In Ruddell, R., & Unrau, N. (Eds.), *Theoretical Models and Processes of Reading* (5th ed.). Deleware: International Reading Association.

Lewison, W. C. (2001) *Hello reader 1: Mud* [Storia version]. Retrieved on January 19, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=hello+reader+mud&x=0&y=0

Malm, M. (n.d.). *The little mermaid* [nabi version].

Meyer, A., & Rose, D. (1998). *Learning to read in the computer age.* Retrieved on December 2, 2012 from http://www.cast.org/library/books/ltr/chapter4.html

McClanahan, B., Williams, K., Kennedy, E., & Tate, S. (2012). A breakthrough for Josh: How use of an iPad facilitated reading improvement. *Tech Trends, 56*(3), 20-28.

Mode. (n.d.). Retrieved on October 13, 2012 from http://dictionary.reference.com/browse/modes

O'Neill, A. (2008). *The worst best friend* [Storia version]. Retrieved on January 14, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=worst+best+friend&x=0&y=0

Perkins, A. (1969). *Hands, hands, fingers, thumb* [Adobe Digital editions version]. Retrieved on January 21, 2013 from http://overdrive.libraryweb.org/D10E9860-5AE7-4C9F-8ECF-29795C28A9A6/10/50/en/ContentDetails.htm?id=CF251FEC-D2BA-4748-9C22-0C7D18E78E5C

Reading Motivation. (n.d.). Retrieved on January 12, 2013 from http://www.education.com/definition/reading-motivation

Segal-Drori, O., Korat, O., Shamir, A., & Klein, P. S. (2009). Reading electronic and printed books with and without adult instruction: Effects on emergent reading. *Read Writ, 23*, 913-930.

Serfozo, M. (2003). *The big bug dug* [Storia version]. Retrieved on January 20, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=big+bug+dug&x=0&y=0

Stein, R.L. (1993). *Goosebumps: Night of the living dummy* [Storia version]. Retrieved January 21, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=goosebumps+night+living+dummy&x=0&y=0

Stinson, K. (2009). *Big & little* [TumbleBooks version]. Retrieved on March 13, 2013 from www.tumblebooks.com

Tompkins, G. E. (2006). *Literacy for the 21st Century: A Balanced Approach,*

Fifth Edition. Upper Saddle River, NJ: Pearson Prentice Hall.

Updike, R. (2012). The three little pigs [nabi version].

Word decoding and phonics. (n.d.). Retrieved from http://www.readingrockets.org/helping/target/phonics/

Wilhelm, H. (2009). *Noodles: I love school* [Storia version]. Retrieved on January 20, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=noodle+i+love+school&x=0&y=0

Zimmerman, A. & Tomasello, D. (2012). Using Storia enrichment features. Retrieved on March 12, 2013 from http://www.scholastic.com/teachers/article/using-storia-enrichment-features

Zuckler, T. A., Moody, A. K., & McKenna, M. C. (2009). The effects of electronic books on pre-kindergarten to grade 5 students' literacy and language outcomes: A research synthesis. *Journal of Educational Computing Research, 40*(1), 47-87.

Zullo, A. (2010). *Bad pets* [Storia version]. Retrieved on January 21, 2013 from http://store.scholastic.com/webapp/wcs/stores/servlet/SearchEndecaCmd?storeId=10052&catalogId=10051&searchTerm=zullo+bad+pets&x=0&y=0

Appendices

Appendix A: Classroom Observation Field Notes

Date:
Teacher Name:
Observer:
School:
Time Start: Time Stop:
Subject:
Grade Level:

Classroom Observation Field Notes		
Phase	Observations	Interpretations
Phase I		
Phase II		
Phase III		

Appendix B: Student Interview Questions

Student Interview: EBooks

1. How many eBooks do you have at home?
2. How many eBooks do you have at school?
3. What do you read the eBooks on at home?
4. What do you read the eBooks on at school
5. What kinds of eBooks do you like to read?
6. Finish this sentence: I like eBooks because…
7. Finish this sentence: I do not like eBooks because…
8. Are eBooks real books? Why or why not?
9. Do you prefer eBooks or paper books when reading? Why?
10. What makes an eBook different from a paper book, in your opinion?
11. How do eBooks help you learn to read?