A CASE STUDY OF THE LITERACY EXPERIENCES OF 3rd GRADE STRUGGLING READERS WITH THE USE OF INTERACTIVE DIGITAL BOOKS

A DISSERTATION IN
Curriculum and Instruction
and
English

Presented to the Faculty of the University of Missouri-Kansas City in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

by
EMINE DEMIROZ

B.A., Trakya University, Turkey, 2010
M.A., University of Missouri-Kansas City, 2012

Kansas City, Missouri
2018
ABSTRACT

Students who score one or more grade levels below the standard expectations in reading tests are defined as struggling readers. Struggling readers have difficulty in reading and/or comprehending a text, which affects them personally and academically. They will continue to fail in reading assessments conducted by their literacy teachers and state and standardized reading tests unless effective interventions are initiated to support their literacy practices.

Technology use has been one of the most popular interventions in contemporary reading instruction for struggling readers. New technologies provide avenues for enhancing literacy instruction, especially of struggling readers. In this study, I examined the experiences of struggling readers within tutoring sessions that focus on the use of interactive digital books.

This qualitative case study was conducted in an elementary school with six 3rd grade struggling readers to explore their experiences with interactive digital books. Data collection sources included the audio–recording of tutoring sessions, two semi–structured interviews, document collection, and the use of a field note journal to triangulate my data.
I analyzed data by developing pattern codes and looking across pattern codes for each individual to determine distinct and common themes. Three themes emerged from this study: barriers, motivation, and technology. This study revealed that every struggling reader needs a unique literacy curriculum with strategies that are unique to their needs. Individuals' choices were seen in this study as significant to motivation. The findings also suggested that interactivity of hotspots might be either encouraging or discouraging for students to want to read more depending on the quality of adult guidance. While this study might help struggling readers with their literacy development, the findings from this inquiry might also be informative for teachers, parents, and even policymakers in designing a literacy curriculum adaptable with the individual needs of struggling readers.
The faculty listed below, appointed by the Dean of the School of Graduate Studies have examined a dissertation titled “A Case Study of the Literacy Experiences of 3rd Grade Struggling Readers with the Use of Interactive Digital Books,” presented by Emine Demiroz, candidate for the Doctor of Philosophy degree, and certify that in their opinion it is worthy of acceptance.

Supervisory Committee

Candace Schlein, Ph.D., Committee Chair
Department of Teacher Education and Curriculum Studies

Rita Barger, Ph.D.
Department of Teacher Education and Curriculum Studies

Loyce Caruthers, Ph.D.
Department of Educational Leadership, Policy and Foundations

Jane Greer, Ph.D.
Department of English Language and Literature

Daniel Mahala, Ph.D.
Department of English Language and Literature
## CONTENTS

ABSTRACT ........................................................................................................................................ iii

ACKNOWLEDGEMENTS .............................................................................................................. xi

1. INTRODUCTION ...................................................................................................................... 1

   Research Rationale .................................................................................................................. 5

   Personal Research Rationale ................................................................................................. 7

   Methodology ........................................................................................................................... 10

   Research Questions ............................................................................................................... 11

   Context .................................................................................................................................. 12

   Participants ............................................................................................................................ 12

   Data Collection ...................................................................................................................... 13

   Data Analysis ......................................................................................................................... 14

   Educational Significance ....................................................................................................... 14

   Overview of Dissertation Chapters ....................................................................................... 15

   Chapter Summary .................................................................................................................. 16

2. THEORETICAL FRAMEWORK .................................................................................................. 17

   Constructivism ....................................................................................................................... 18

   Critical Sociocultural Theory ............................................................................................... 20

   Curriculum Reform and Curriculum Influences Related to Literacy ................................. 22

   Multicultural Education (1960s) ......................................................................................... 23
Elementary and Secondary Education Act (1965) ................................................. 24

Comprehensive School Reform (2000s) ................................................................. 26

Elementary and Secondary Education Reauthorization Act– No Child Left Behind
(2001) ...................................................................................................................... 28

Common Core Standards (2010) ................................................................................ 30

Chapter Summary ..................................................................................................... 33

3. LITERATURE REVIEW ......................................................................................... 35

Reading Motivation ................................................................................................. 36

Reading and Writing Connections ........................................................................... 38

The Relationship of Spelling to Reading ................................................................ 43

Educational Technology in Reading Instruction ..................................................... 45

Traditional Print Books versus Digital Books ......................................................... 49

Digital Books .......................................................................................................... 53

Interactive Digital Books ....................................................................................... 56

Chapter Summary ..................................................................................................... 60

4. METHODOLOGY ................................................................................................. 62

Research Problem ................................................................................................... 62

Research Questions .................................................................................................. 63

Rationale for Qualitative Research .......................................................................... 64

Research Approach: Case Study .............................................................................. 66
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role of the Researcher</td>
<td>69</td>
</tr>
<tr>
<td>Study Design</td>
<td>73</td>
</tr>
<tr>
<td>Participants</td>
<td>75</td>
</tr>
<tr>
<td>Interactive Digital Book Selection</td>
<td>77</td>
</tr>
<tr>
<td>Procedure</td>
<td>79</td>
</tr>
<tr>
<td>Data Collection</td>
<td>81</td>
</tr>
<tr>
<td>Interview</td>
<td>82</td>
</tr>
<tr>
<td>Participant Observation</td>
<td>85</td>
</tr>
<tr>
<td>Document Collection</td>
<td>86</td>
</tr>
<tr>
<td>Field Notes</td>
<td>88</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>89</td>
</tr>
<tr>
<td>Case Study Analysis</td>
<td>91</td>
</tr>
<tr>
<td>Ethical Considerations, Validity and Reliability, and Inquiry Limitations</td>
<td>92</td>
</tr>
<tr>
<td>Ethical Considerations</td>
<td>92</td>
</tr>
<tr>
<td>Validity and Reliability versus Trustworthiness</td>
<td>97</td>
</tr>
<tr>
<td>Inquiry Limitations</td>
<td>101</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>104</td>
</tr>
<tr>
<td>5. FINDINGS</td>
<td>106</td>
</tr>
<tr>
<td>Study Overview</td>
<td>106</td>
</tr>
<tr>
<td>Interactive Digital Books</td>
<td>106</td>
</tr>
<tr>
<td>Appendix</td>
<td>Title</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>D</td>
<td>Interview Guide (1st Interview)</td>
</tr>
<tr>
<td>E</td>
<td>Interview Guide (2nd Interview)</td>
</tr>
<tr>
<td>F</td>
<td>Reading Interest Inventory</td>
</tr>
<tr>
<td>G</td>
<td>Observational Protocol</td>
</tr>
<tr>
<td>H</td>
<td>Level–Appropriate Interactive Digital Book Applications</td>
</tr>
<tr>
<td>I</td>
<td>Running Record</td>
</tr>
<tr>
<td>J</td>
<td>Record of Reading Behavior</td>
</tr>
<tr>
<td></td>
<td>REFERENCES</td>
</tr>
<tr>
<td></td>
<td>VITA</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

This journey would not have been possible without the support of my family and teachers. First, I would like to thank my husband, Erdem Demiroz for his continuous input and invaluable support in pursuing my degree. I also would like to thank my children, Zehra Derin and Toprak Deniz for being a joy and source of motivation and inspiration for me. Plus, I would like to thank my mother and father for their support and belief in my education miles away from my country. Every one of these people in my family has made so many sacrifices for my education that I am deeply appreciated to all of them.

Many thanks to my dissertation chair, Dr. Candace Schlein, who patiently assisted me with revisions and each step of this long journey. Also thanks to my committee members Dr. Rita Barger, who made me feel her support all the time and helped me with anything she could do to assist me; Dr. Loyce Caruthers, who took her time to patiently explain the data analysis processes; Dr. Jane Greer, who supported me in this process, and Dr. Daniel Mahala, who opened new horizons in my perspectives. Last but not least, I would like to thank all my teachers who shaped my perspective as an educator.
To my children, Zehra Derin and Toprak Deniz
CHAPTER 1
INTRODUCTION

The National Center for Education Statistics (NCES) showed that in 1992, 38% of fourth grade students in the United States scored below the basic level of reading expected for their age (Kena et al., 2014). These data indicated that students scored below partial mastery of fundamental skills in reading. In 2013, the results of NCES showed that the percentage of fourth grade students performing below the basic level of reading expected for their age was 32%, which is lower than the percentage in 1992 (Kena et al., 2014). Although there seems to be a decrease in the number of fourth grade students who scored below the basic level between the years of 1992 and 2013, it is clear from the same data that there are still many students who continue to fail state and standardized reading tests.

It is significant for students to be at the expected level for reading beyond test scores. Literature shows connections between low literacy levels and students’ engagement, motivation, and connection to school (Guthrie & Wigfield, 2000; Klem & Connell, 2004; Snow, Burns, & Griffin, 1998); high school dropouts, unemployment, poverty, and government assistance need (Reschly, 2010); and even recidivism among prison population (Vacca, 2004). When students do not read at advanced or even proficient levels, they develop into adults who have poor reading skills. These adults constitute many of “those who are high school dropouts, unemployed, living in poverty or receiving government assistance, and/or incarcerated” (Reschly, 2010, p. 67). Fifty-five percent of those scoring at the lowest levels of adult literacy in the United States did not complete high school (Kirsch, Jungeblut, Jenkins, & Kolstad, 2000). One major reason why students in the early grades are retained is not performing at the expected
grade level in reading (Snow et al., 1998). In light of the literature highlighted here, performing at the expected level for reading is crucial for students to be successful inside and outside of school.

Students who score one or more grade levels below the standard expectations in reading tests are defined as struggling or emergent readers (Guthrie & Davis, 2003). In this study, these students will be discussed using the term of struggling readers. There are many reasons why these students struggle with reading texts.

There are school-related reasons that add to the challenges of struggling readers. For example, some teachers select one text for a whole class. Yet, text selection might be most appropriate for students who are academically average or higher-achieving (Allington, 2009). In addition, struggling readers are provided with instruction that is appropriate to their needs only 10–20% of the school day. Districts continue to rely on a one-size-fits-all curriculum, ignoring the individualized needs of struggling readers (Allington, 2007). Time limits for reading might be another challenge for struggling readers if they need more time and effort than others to process text.

While some of the issues that students experience with reading might result from the schools, other issues that cause students to struggle with the text have to do with the students themselves. According to Reading Rockets, which is a national multimedia project offering research-based and best-practice information for struggling readers, their teachers, and their parents, listed some of the reasons why these readers struggle. Reading Rockets noted that struggling readers might have a disability that makes reading difficult to learn; they might come to school without the literacy experiences they need to become readers, or they might have received poor or inadequate reading instruction (Why some
kids struggle, 2015). While some struggling readers have decoding problems, others can decode well but understand little of what they read (Pinnell et al., 1995). Some struggling readers suffer from limited vocabulary, while others cannot summarize the text or synthesize it with other texts (Allington, 2007).

Student–related reasons for struggling with reading have to do with a problem in crucial skill(s) of reading. To process text effectively, individuals must master a set of separate skills. According to Reading First initiative, which adopted the National Reading Panel (NRP) report as a basis, these skills consist of phonemic awareness, phonics, fluency, vocabulary, and comprehension (Weaver, 2009). Although these skills are equally important, comprehension is more significant in terms of processing text. Comprehension is neither the goal nor the product of reading, but it is the fundamental core of the broader and complex ability to reason (Fountas & Pinnell, 2006). However, individuals cannot effectively process text only by having the skills of phonemic awareness, phonics, fluency, and vocabulary. They must have the comprehension skill along with one or more of the other skills in order to effectively process text.

This qualitative case study gives an account of an intimate relationship between the teacher as a researcher and six student participants. During the data collection process of this study, I worked with six struggling readers by working one-on-one with each of them during their regular school hours, because they were identified as needing special help with their reading. This intimate relationship portrayed teacher as a researcher in action, which is also called teacher lore. Teacher lore is a term proposed by Ayers and Schubert (1994). According to Ayers and Schubert (1994), teacher lore is a term to describe “knowledge, ideas, insights, feelings, and understandings of teachers as they
reveal their guiding beliefs, share approaches, relate consequences of their teaching, offer aspects of their philosophy of teaching and provide recommendation for educational policy makers” (p. 9). Parker Palmer (1998) also mentioned about teacher lore in his personal account of teaching, *The Courage to Teach*, a book that centers the teacher as curriculum. It is very important to know the experiences of teachers and students in interaction as they work together to shape curricular situations in context. The account of my intimate interaction with the student participants might inform educational policymakers and even provide recommendations for them in the planning and control of the curriculum.

Related to the teacher lore, there are two important aspects that need to be shed further light in regards to this study: action research and curriculum as teacher, which are intertwined phenomena. Action research, which is initiated by Lawrence Stenhouse, is a form of investigation conducted by and for educators (Schlein & Schwarz, 2015). Schlein and Schwarz (2015) further explain action research as an inquiry, in which “teachers undertake studies that are rooted in their practices and areas of interest among students” (p. 156). Since I worked with student participants as their volunteer literacy tutor, I conducted action research by sharing my practices in working with students for their literacy instruction. Conducting an action research study enabled me to act as curriculum and claim agency as knower of pedagogy and of curriculum.

Teachers are essential to “a meaningful curriculum when they are allowed to act as professional who plan, enact, assess, and revise curriculum” (Schlein & Schwarz, 2015, p. 155), so they are viewed as curriculum themselves. It is the duty of teachers to observe real tasks in authentic contexts, to determine learning objectives required for
students to achieve these tasks, and to design activities to support learning (Bobbitt, 1918). This view of teachers show how important teachers are in curriculum planning, so they should be involved in the decision making process of planning and designing curriculum that will benefit student achievement most. This study allowed me to plan, enact, assess, and revise curriculum that I designed to support students’ literacy instruction for student achievement, because the tutoring allowed me room to design the sessions based on what I believed was of most worthy and beneficial for students.

**Research Rationale**

Teachers spend a great amount of time preparing students for state and standardized reading tests (Olson, 2001), and such teaching efforts do not necessarily translate into real learning (Linn, 2000). Learning occurs only if teachers understand the reasons for their students’ poor results on tests (Valencia & Buly, 2004). Even though there is no single reason why struggling readers struggle, there are a number of suggested solutions to improve the reading proficiency of struggling readers. Studies show that struggling readers benefit from instruction that is appropriate to their individualized needs (Slavin, Lake, Davis, & Madden, 2011; Wasik & Slavin, 1993). Since these readers are struggling, they need more specialized and personalized reading instruction that is designed specifically for them. Every student has unique characteristics, and so they each have different reasons underlying their reading comprehension and their performance on standardized tests.

Research also exhibits that technology has long been suggested as a solution for the needs of struggling readers (Anderson–Inman & Horney, 2007; Boone & Higgins, 2007), because technology can be adapted to meet the individual needs of readers.
Cheung & Slavin, 2013). One of the most widely adopted forms of instructional and learning technology for readers is the interactive digital book. Interactive digital books are defined as electronic book applications that have multimodal features, such as the ability to move the objects on the page; provide narration for students to listen to words; enable text highlighting; and allow readers to look up information via built-in dictionaries (Larson, 2010). They also allow adjusted font size; and/or they even add animations and provide multimedia content, such as videos; games; and puzzles. Thereby, interactive digital books are seen as "bringing the book to life" (Schugar, Smith, & Schugar, 2013). Digital books offer a new kind of storybook reading experience for young children, by targeting their interests and boosting their early literacy skills and concepts (Bus, de Jong, Verhallen, & Van der Kooy–Hofland, 2009; de Jong & Bus, 2002; Korat & Shamir, 2007).

Thus, interactions within tutoring sessions that incorporate the use of interactive digital books might be especially successful at aiding struggling readers to become effective readers. Therefore, in this case study investigation, I inquired into the reading experiences of six struggling readers with interactive digital books in an elementary school setting. I focused on six individual case studies, because the experiences of several different struggling young readers with interactive digital books might bring about rich investigative findings. This study shed much light on the highly significant issue of struggling readers, as well as contributed to ways of potentially improving students’ comprehension and motivation in reading.

However, this study should not be understood as a promotion of technology in education. I strongly believe that technology should only be used efficiently and when
necessary if it is going to boost learning. This study made use of interactive digital books with struggling readers and explored what they thought of using interactive digital books and how supportive interactive digital books were in participants’ literacy instruction. The results provided both positive and negative insights about the use of interactive digital books with the struggling readers that were volunteered for this study.

**Personal Research Rationale**

In this study, I examined the experiences of struggling readers within tutoring sessions that focus on the use of interactive digital books. My passion for this line of research is firmly entrenched in my belief that all children should be able to participate in the joys of reading while also benefiting from the experience of being proficient in reading. At the same time, my investigation is guided by my own experiences with struggling as a reader. I outline in the story below my personal narrative positioning as a researcher in the midst of my study. I contributed this autobiographical work from my own primary field notes, as I began to take on the role of a researcher within this study. I highlight in the following my own experience as a struggling reader in the context of a foreign country in order to indicate how timed reading might result in negative impacts on students academically. Moreover, my narrative highlights how a deficit model for student motivation in the area of reading development might also negatively affect a student’s home and family interactions.

*I wait impatiently for my turn to come while the teacher listens to what my classmate reads from a text. She stops him in three minutes and begins to count how many words he has read. All of my classmates and I are excited for our turns to come. We are all first graders who have completed studying the alphabet in the*
first semester. We are now expected to read above a certain number of words aloud in three minutes from a text that our teacher has chosen for us in front of the classroom. The students who read above a word limit get a cardboard that has a red apple on it, which means, “You have begun to read!” They will then take the red apple to their families, who, as a tradition, bring food to the school within a couple of days for all the children to celebrate their excitement and joy. The rest of the students have to wait for the next round of assessment, which might be a couple of days later.

When the teacher called my name, I was so nervous that I felt like I had had a bucket of cold water dumped all over my body. I began to read, feeling the tremble in my voice. As I read, I wondered if I had read enough words to get the apple. The teacher stopped me after three minutes and began to count the number of words that I had read.

I felt as though my heart was about to stop as I waited to hear my teacher’s response to the number of words that I had read within a three−minute time span. Then, my teacher said, “Emine, practice to read more at home until the next round of assessment.” I felt as though I wanted to crawl into a hole. I could feel many pairs of eyes looking at me as I walked back to my desk. The journey seemed to be the longest walk that I had ever taken. I wondered to myself about how I will be able to go home and tell my parents that I was unable to read enough words to get the red apple, since they expected me to get it. I did not remember the rest of the school day; what I was taught; what I did during the break; and how the time passed. Eventually, the bell rang for us to go home.
As I walked into my house, my mother asked me about the apple. I ran to my room without saying anything. Once I was in my room, I burst into tears after having held them the whole day. No other family member asked me anything else about the apple, as they understood what had happened. I got the apple in the next round of assessment, and my parents brought food to the classroom, but it felt like it did not have the same level of excitement that it should have had.

This story that I related above displays my experience with being a struggling reader who was unable to meet the expected levels for timed reading. I have also had some negative experiences with high school and college preparation tests, due to requirements for timed reading and the answering of questions. My own encounters with school as a struggling reader has often left me feeling discouraged about my academic potential. However, one of my teachers in a college preparation course realized that I was able to perform better than my classmates when I was given more time to read and respond to questions. Therefore, he told me that this was not something to worry about, and he encouraged me to keep going. My teacher helped me to realize that I can succeed in spite of my struggles with reading. For this reason, my experience as a struggling reader has directed me to explore the experiences of other struggling readers who might have similar or different reasons to struggle with reading texts.

The next section will provide an overview of the qualitative research methodology that I used for this study. The qualitative lens enabled me to focus on the reading experiences of struggling readers with interactive digital books to make meaning of their experiences. I further illustrate my employment of case study as a way in which to uncover the phenomenon under study.
Methodology

Qualitative research enables researchers “to uncover and understand what lies behind a phenomenon about which little is yet known” (Strauss & Corbin, 1990, p. 19). Moreover, the particular focus of qualitative research is on “how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (Merriam, 2009, p. 5). In this study I made use of a qualitative research design so that I might obtain a deeper understanding of the experiences of struggling readers within tutoring sessions that made use of interactive digital books.

I used case study as the major qualitative design of this inquiry. I incorporated Creswell’s definition of case study as he defined it in broad terms as a methodology, a type of design in qualitative research, and an object of study, as well as a product of the inquiry. Case study “involves the study of an issue explored through one or more cases within a bounded system (i.e., a setting, a context)” (Creswell, 2007, p. 73). According to Cresswell (2007) and Suter (2012), the case might be an individual, several individuals, a group, a program, an event, or an activity. Each of the participants selected for this study served as a single case in this multiple case study. Patton (2002) emphasized that one cannot generalize from single cases or very small samples, but it is possible to learn from them. The purpose of this case study was not to generalize inquiry findings, but to learn from them and to open up possible new territory for further research.

In this section, I outline the details of my qualitative multiple case study investigation into the experiences of struggling readers within tutoring sessions that focused on the use of interactive digital books. In particular, I discuss below the research questions that shaped this study. I also highlight the context of my study and describe my
study participants. I additionally provide an overview of my data collection and analysis methods. I further discuss some of the ethical considerations of this inquiry.

Research Questions

My research is centered around two central research questions and two sub-questions:

1. How do struggling readers describe their literacy experiences related to the use of interactive digital books during tutoring sessions?
2. What is the academic potential of using interactive digital books among struggling readers?
   a.) How does using interactive digital books support the reading comprehension of struggling readers?
   b.) How does using interactive digital books support the reading motivation of struggling readers?

Taken together, my research questions aim to explore how students’ achievement in the area of reading is affected by the inclusion of the use of interactive digital books through individualized, one–on–one instruction on reading. My investigation also examined how my student participants considered their experiences of reading within tutoring sessions that used interactive digital books. In this way, it was my investigative aim to learn more about how students were impacted personally and academically regarding reading through the course of the inquiry.
Context

It is important to describe the context of a study to provide readers with a picture of where the study will take place. This inquiry was located in an elementary level charter school in the Midwest region of the United States. The research school had approximately 80 students from diverse backgrounds (85.2% African American and a small percent of White and Latino/a, which was not indicated because the percent was suppressed due to a potential small sample size), who were enrolled in kindergarten through fifth grade programs. 93% of the students in this school participated in the free or reduced-price lunch program in 2014 (Missouri Department of Elementary and Secondary Education, 2014).

The students who get “Below Basic” and “Basic” level scores in the content area of English Language Arts in the Missouri Assessment Program (MAP) are targeted as needing reading assistance. According to 2015 MAP results, 53.3% of the third graders in this school are at the “Below Basic” level, while 20.0% of them are at the “Basic” level (Missouri Department of Elementary and Secondary Education, 2014). Thus, 73.3% of the third graders in this school are the potential pool of participants to be recruited for this study.

Participants

Six 3rd grade struggling readers were recruited as participants for this study in the elementary school described above. I used purposeful sampling to select the participants for this study. Of the purposeful sampling strategies, snowball sampling followed by criterion sampling and maximum variation sampling were used to select the participants.
I selected the school and the participants with the help of a "gatekeeper"—one of my professors, who knows the principal of the school as a snowball sampling strategy. Then I used criterion sampling to select the participants that meet the criteria for this study. Ethnicity and gender were used as criteria for criterion sampling and maximum variation sampling strategies.

Data Collection

I collected data through the participant observation of tutoring sessions, two semi–structured interviews, document collection, and the use of a field note journal to triangulate my data. I conducted research with my participants over a two–month period in the school area designated by the principal. I conducted two semi–structured interviews to have a deeper understanding of my participants’ experiences. I also worked one–on–one with each student participant for two half an hour sessions each week for a total of two months. In total, I collected data based on 16 individual half an hour sessions with 6 students.

During tutoring sessions, I used level–appropriate interactive digital book applications on iPads, drawing from available downloads from the iPad, App Store. I used my own tablet and purchased the book applications myself. I audio–recorded tutoring sessions with my participants while using interactive digital books. However, the audio–recordings of tutoring sessions were not transcribed, but only kept as a reference in case I need to go back and analyze something I miss as a researcher while interacting with the participants as a teacher. I wrote technical and reflective field notes after each tutoring session. These field notes consisted of descriptions of what was being experienced, such as what social interactions occurred and what activities took place.
during observation, and of my feelings; insights; interpretations; and reactions to what was observed. Furthermore, I compiled student portfolios for each student that included lesson plans; reading interest and spelling inventories; running records; records of reading behavior; and any other student work (drawing and/or writing) produced at each tutoring session.

**Data Analysis**

Following data collection, I compiled all the raw data. The composition of my technical and reflective field notes served as the initial steps of the data analysis. Once I accumulated all the raw data, I developed pattern codes and looked across pattern codes for each individual to determine distinct and common themes. I searched for recurring themes and patterns in the data manually, especially looking for themes and patterns that might be aligned with my research questions. I then wrote a case record for each individual. I also performed a within–case pattern analysis.

**Educational Significance**

Teachers have been working on strategies to help students who struggle to read at their grade level since the adoption of the No Child Left Behind Act (NCLB) (2001). NCLB was aimed at meeting the academic needs of children with low academic achievement, limited English proficiency, disabilities, and young children in need of reading assistance. These students can best be supported through cognitive strategies in which one–on–one instruction is used to enhance their comprehension (Cooper, 1999; Echevarria, Vogt, & Short, 2000; O’Malley & Chamot, 1990; Shearer, Ruddell, & Vogt, 2001; Wasik & Slavin, 1993).
In this study, I worked individually with each struggling reader student participant. Working one-on-one was beneficial to struggling readers in this study as supported by the literature. It might also be of special interest to teachers and parents in assisting struggling readers to improve their reading proficiency. In addition, the findings might open new doors for teaching and learning opportunities that are not available in traditional print books. This study might also enable some teachers to develop a literacy curriculum adaptable with the individual needs of some of the struggling readers.

**Overview of Dissertation Chapters**

In chapter 2 of this study, “Theoretical Framework,” I discuss literature surrounding the three conceptual strands that establish the foundation for this study: *Critical Sociocultural Theory, Constructivism, and Curriculum Reforms Related to Literacy*. In chapter 3, “Literature Review,” I examine the research and theory related to reading motivation, reading, writing, and spelling connections, educational technology use in reading instruction, a comparison of traditional print and digital books, digital books for reading instruction, and interactive digital books with struggling readers. In chapter 4, “Methodology,” I provide a thorough description of this inquiry’s research design, as well as a discussion of the rationale for qualitative research, the major design of case study, and the inquiry setting and participants. I further discuss the methods of data collection and analysis, and I highlight possible limitations of the investigation, including a consideration of validity, reliability, and ethical considerations of this study. In chapter 5, “Findings,” I provide a detailed outline of each case study for my participants and explain the themes emerged from their data. Finally, in chapter 6, “Conclusion,” I discuss the findings of my study and draw conclusions regarding what I
learned about the experiences of my participants with the interactive digital book applications. I also share any implications of their experiences for educational contexts under chapter 6.

Chapter Summary

Although the results of recent state and standardized reading tests reported that students scored better than previous years, there are still many students scoring below average (Kena et al., 2014). The use of technology in tutoring sessions might be very effective for these students. Therefore, in this study, I aimed to gain a sophisticated understanding of the academic potential of interactive digital books for struggling readers. In this chapter, I discussed reasons that led me to conduct this study and examined the research related to literacy instruction and technology use for struggling readers. I also provided an overview of the qualitative research methodology that was used for this investigation and briefly explained the educational importance of this study. The next chapter will provide a discussion of research that frames this study.
CHAPTER 2
THEORETICAL FRAMEWORK

Miles and Huberman (1994) defined theoretical framework, interchangeable with conceptual framework, as the system of concepts, assumptions, expectations, beliefs, and theories that support and inform our research. Bickman and Rog (2009) viewed it as "a model that specifies the variables of interest and the expected relationships between them" (p. 7). According to Maxwell (2013), the function of the theoretical framework or conceptual framework is to inform the design of the study, evaluate and clarify goals, develop realistic and pertinent research questions, choose appropriate methods, and determine possible validity threats to conclusions as well as to justify research.

The theoretical framework for this study is built from sources that establish the foundation for this study and from the culmination of theoretical literature reviewed within three areas: Constructivism, Critical Sociocultural Theory, and Curriculum Reforms and Curriculum Influences Related to Literacy. Constructivism is a crucial theme, since it explains how reading is a constructive process. Critical Sociocultural Theory addresses how literacy–related activities are socially and culturally mediated processes within and beyond schools. Curriculum Reforms and Curriculum Influences Related to Literacy illustrate early and contemporary literacy practices in schools and how they influence literacy education in the United States. These themes are significant to my study, because, together, they describe the major elements that inform the shaping of my inquiry. As they are relevant to my theoretical framework, concepts from these bodies of thought are described in the following section respectively.
Constructivism

Following behaviorism and cognitivism, constructivism has been the most modern theory used in literacy instruction (DeVries, 2004). Behaviorists consider people as rather passive to their environment, and cognitivists view the mind and thought as central to learning. In turn, constructivists view learning as an active and constructive process. According to constructivist theory, individuals make sense of new learning situations by linking what they know with what they are learning. They build on their prior knowledge through accommodation and assimilation (Piaget & Inhelder, 1969). Constructivists recognize that environment, experience, and language play key roles in constructing knowledge (Dewey, 1997; Larochelle, Bednarz, & Garrison, 1998). Constructivism is the perspective that learners construct their own knowledge based on their interaction and experiences with the environment (Draper, 2002).

Advocates of constructivism support a perspective that reading and writing are processes in which the reader and writer construct or compose meaning actively. Constructivism focuses on the fact that comprehending a text is an active and constructive process. Individuals must actively engage with the text, think about what they are reading, and connect the information that they glean from the text with information with which they are already familiar (Graves, Juel, & Graves, 1998).

Constructivism in literacy considers literate people as individuals who negotiate social and textual contexts (Greene & Ackerman, 1995). It is also both a psychological and social construct, in which the meaning we derive from our experiences is influenced by the social world in which we live. These experiences include our experiences with text as well. Thus, no two readers are expected to construct exactly the same meaning from a
text, because the meaning an individual constructs from a text is subjective (Graves, Juel, & Graves, 1998).

One of the most prominent theorists on the influence of constructivism in the area of literacy is Vygotsky (1962), who proposed a construct called the zone of proximal development (ZPD). The ZPD is the “difference between the child’s actual level of development and the level of performance that he achieves in collaboration with the adult” (Vygotsky, 1962, p. 209). According to the ZPD, students construct meaning through interacting with someone who knows the information and processes (Vygotsky, 1962). Every student needs the support of a community (e.g. classmates, peers, teachers, parents, school staff, etc.) to stretch beyond his or her existing level of skill and understanding; however, “the teacher plays the central role in assuring that instruction leads each child forward” (Fountas & Pinnell, 2006, p. xxxii). Teachers provide the necessary scaffolding through guided practice until struggling readers become proficient readers (Applebee & Langer, 1983). Educators need to build the background knowledge of struggling readers and explicitly teach reading strategies until struggling readers become proficient readers to facilitate this learning process (DeVries, 2004).

Constructivism is an important framing concept of this study because it is a theory that attempts to explain how readers actively make meaning of a text. Therefore, I will focus on constructivism as one of the central arms of the theoretical framework of this study as I scaffold struggling readers in their literacy practices. This theory enables me to comprehend how struggling readers make sense of texts and how I can guide my participants in their literacy practices. In the next section I explain critical sociocultural theory, which is another central framing concept to this study.
Critical Sociocultural Theory

The field of literacy was influenced by psychological research before 1980s. Since then, however, there has been an interest in the social dimensions of literacy. There was especially an interest in how literacy was socially constructed. Literacy was no longer viewed just as a cognitive skill, but as a cultural practice (Cairney, 1995), and this concept forms the foundation of sociocultural theory. It is crucial to consider sociocultural theory in order to elaborate on the foundations of critical sociocultural theory in relation to literacy. Goodman (1965), Harste, Woodward, and Burke (1984), and Snow (1983) were early sociocultural theorists who advocated for the need to consider the child in real world contexts. Vygotsky (1962) and Bruner (1986) further emphasized the relationship between skilled and less skilled learners and their roles in supporting literacy development. Halliday (1975), and Hymes (1974) argued that language is made as people act and react to one another. Sociocultural theory is based on the argument that human mental functioning is essentially a mediated process that is constructed by cultural practices (Ratner, 2002).

Within this framework, humans are understood to utilize existing cultural artifacts and to create new ones that allow them to regulate their biological and behavioral activity. Language use, organization, and structure are the primary means of mediation. Practically speaking, developmental processes take place through participation in cultural, linguistic, and historically formed settings such as family life and peer group interaction, and in instructional contexts like schooling, organized sports activities, and work places, to name only a few. (Lantolf & Thorne, 2006, p. 197)
Sociocultural theory explains the role of mediation, language, and culture in learning substantially. However, it does not overtly explain significant issues of identity, agency, and power in the production of knowledge. These issues are important to the context of literacy instruction and development, since literacy is both a social and a cultural practice.

Critical sociocultural theory is a term put forward by Lewis, Enciso, and Moje (2007) to fill potential gaps in sociocultural theory and to reframe sociocultural research on literacy. Sociocultural theory under-theorizes the individual and the community, because its focus is on how individuals shape identities as they take part in communities of practice (O’Connor, 2001). However, critical sociocultural theory includes a broader perspective by focusing on how identities are shaped by and how they shape social and cultural contexts. Critical sociocultural theory emphasizes identity, agency, and power in literacy practices. Critical sociocultural theory suggests that researchers need to examine their positioning and its effects on learning and the production of knowledge, which means that “we must understand the role of our own autobiographies, or histories of participation, as well as the histories of our research participants” (Lewis, Enciso, & Moje, 2007, p. xi.). Critical sociocultural theory challenges the meaning of participant and researcher and views participants as engaging in the production of knowledge rather than only consuming knowledge (Lewis, Enciso, & Moje, 2007).

Long, Volk, Baines, and Tisdale (2013) explained critical sociocultural theory “as a process in which teachers and children privilege traditions and practices typically marginalized in schools for the purpose of supporting achievement and broadening worldviews” (p. 1). They further stated that people work together to co-construct
practices. These practices embody the potential for learning by focusing on the cultural sides of home and community.

A critical sociocultural view considers learning as the remaking of identity in a specific space via the mediation of new discourses and knowledge (Hawkins, 2004). In critical sociocultural theory, the role of the teacher is to manage life in the classroom as a place in which learning is possible and sustained (Singh & Richards, 2006). According to critical sociocultural theorists, teachers adopting a critical sociocultural theory should create learning environments where silenced voices become more active in the process of learning. Moreover, resources that are ignored or marginalized in schools should be modified to the learning processes of students (Long, Volk, Baines, & Tisdale, 2013).

Critical sociocultural theory is one of the central theories guiding this study. This theory enables me to consider how my participants might engage in literacy–related activities as socially and culturally mediated processes within and beyond schools (Long & Volk, 2010). The next section will provide an account of curriculum reform and curriculum influences related to literacy and why they contribute to my study.

**Curriculum Reform and Curriculum Influences Related to Literacy**

Literacy education in the United States has undergone some changes with different eras of curriculum reform. Some of these reforms and their influences on literacy curriculum in the United States are the multicultural movement as a result of the Civil Rights Movement in the United States in 1960s, the authorization of the Elementary and Secondary Education Act of 1965, the Comprehensive School Reform, the reauthorization of the Elementary and Secondary Education Act, which is more widely known as No Child Left Behind (NCLB), in 2001, and the implementation of Common
Core Standards in 2010. In this section, I will focus on the aforementioned curriculum reforms and their influences that will inform and guide my study in terms of understanding the previous and current literacy practices in public schools in the United States. These reforms and their influences on literacy will be organized historically.

**Multicultural Education (1960s)**

Banks (2004) defined multicultural education as "a broad concept with several different and important dimensions," (p. 20), which includes integrating content from different cultures and groups into the curriculum (content integration), how teachers and students understand the growth of knowledge in different disciplines (knowledge construction), how teachers help students to develop anti-biased attitudes about other cultures (prejudice reduction), and promoting an equitable learning atmosphere for students of all backgrounds to learn effectively (equity pedagogy). Phillion (2002) emphasized the significance of culture in curriculum and viewed multiculturalism in process, continually changing, in transition, and under development. Although the idea of multiculturalism has been discussed for decades by various scholars, the origin of multicultural education dates back to the 1960s with improvements in ethnic studies, bilingual education, and anti-racist movements (Nieto, Bode, Kang, & Raible, 2008).

Changing demographics in the United States resulted in considering the disparate educational outcomes of students from diverse backgrounds. These disparities are commonly known as an achievement gap between White students and middle class, Latino/as, African Americans, Native Americans, English-speaking students, and other students who live in poverty and/or who speak home languages other than English (Nieto, Bode, Kang, & Raible, 2008). While the cultures of diverse students were almost ignored
before multicultural education reform, it is now crucial for teachers to learn, understand, and appeal to the cultures of these students. Teachers, especially those in diverse classrooms, are expected to create a curriculum that is culturally sensitive (Igoa, 1995), culturally responsive (Weinstein, Tomlinson–Clarke, & Curran, 2004), and culturally relevant (Ladson–Billings, 1994) in order to meet the needs of their diverse classrooms. In addition, before the multicultural education reform, students from diverse backgrounds continued to score low in many subjects, especially in reading, because the majority of them were immigrants or they were not exposed to English much. As a result of multicultural education reform, more cultural elements have been added to textbooks, classroom environments, and learning activities, which has been a fundamental step in more effectively engaging both immigrant and nonimmigrant children in literacy practices.

There are several initiatives that aim to provide a multicultural literacy experience to children. For example, one of the largest reading organizations, Reading is Fundamental (RIF), promotes a multicultural literacy campaign to motivate diverse student populations by providing free books and resources that encourage children to learn more about their own culture and explore other cultures (Reading is Fundamental, 2014). Following the multicultural education reform, there have been many acts and programs, such as Elementary and Secondary Education Act (ESEA) and Bilingual Education Act designed to support these children's education.

**Elementary and Secondary Education Act (1965)**

The increasing racist and unequal social conditions in the United States in the late 1960s and early 1970s resulted in social, political, and economic disparities. In order to
rectify these disparities, President Johnson signed the Elementary and Secondary Education Act (ESEA) in 1965 as part of the "War on Poverty" (Ladson–Billings & Brown, 2008). ESEA emphasized equal opportunities in education, high standards, and accountability. ESEA provided federal aid for the development of educational curricula and programs that were targeted to poor students and students of color, because these students were considered to lack the academic skills to effectively keep up in school (Loretan & Umans, 1966).

The target of ESEA of 1965 was on children from low–income families, children with limited English proficiency, children with disabilities, children of immigrant workers, American Indian children, and children whose households need family–literacy services. ESEA emphasized closing the achievement gap between disadvantaged children and other children, and it provided funds for low–income schools in order to close the achievement gap. The funds benefitted struggling students to some extent; however, the gap between low–achieving students and other students was still huge despite all the funds, and the nation still fell behind other nations in test results (Crawford, 2011).

During the 1960s, school subjects were centered on teaching reading, writing, calculating, and problem solving (Coleman et al., 1966). Instead of the skill–development approach, the product approach was born. According to the product approach, the ultimate reading product was viewed as comprehension and the writing product was viewed as sentences, paragraphs, and essays (Heller, 1999). Thus, during the 1960s, reading and writing became as crucial as mathematics. This huge shift in the school curriculum became a critical point in literacy education, because there were more funds and research on the improvement of literacy education with the ESEA of 1965. In
addition, Title II of the ESEA provided funds for school libraries, and for the purchase of textbooks and other instructional materials (U.S. Department of Education, 2002). This shows that reading was substantially supported with funds from the ESEA.

**Comprehensive School Reform (2000s)**

Comprehensive School Reform (CSR) was passed by U.S. Congress in 1997. This reform was one of the broadest efforts to implement the principles of whole–school reform to the improvement of the reading curriculum. It was developed as a result of modest improvements in student achievement through federal programs, such as Title I of the Elementary and Secondary Education Act (Taylor, Raphael, & Au, 2011). The goal of CSR was for individual schools to make use of externally developed models for school improvement (Borman, Hewes, Overman, & Brown, 2003). Among the many CSR models, three models were the most common and widely used ones: (a) Accelerated Schools, (b) Success for All, and (c) America's Choice (Taylor, Raphael, & Au, 2011).

**Accelerated Schools.** Accelerated Schools aimed to improve learning through constructivist teaching and challenging activities rather than traditional skill–based approaches (Levin, 1987). The guiding principles of Accelerated Schools were unity of purpose shared by teachers, students, parents, and the community; empowerment; and increasing creativity and knowledge acquisition (Taylor, Raphael, & Au, 2011). Even though these principles are required for the success of any school, they have not been considered sufficient to increase students' literacy proficiency levels (Taylor, Raphael, & Au, 2011).

**Success for All.** The Success for All Program was first implemented in 1987 and it was the most common of the three CSR models. The model focused on phonics and
literacy comprehension. In this model, students were required to participate in a 90–
minute reading lesson every day that was taught by educators who used scripted lessons
(Slavin & Madden, 2001). Within this program, teachers met with small groups of
students, who were grouped according to their achievement level rather than by age or
grade. The students were assessed continuously every 8 weeks. Based on their results,
students either received tutoring or moved to another group (Herman, 1999). There have
been several cited drawbacks to the model, such as the lack of flexibility in the program;
the boredom of teachers because of scripted lessons; the difficulty of regrouping students;
and the need to recycle the same materials to students who did not progress and the
resultant lack of student motivation (Klingner, Cramer, & Harry, 2006).

America's Choice. The America's Choice program, which was applied in 40
schools, began with the help of the National Center on Education and the Economy
(NCEE) in 1998 to raise students' achievement through standards–based assessments,
instruction aligned to these standards, instructional leadership, developing professional
learning communities, and engaging parents and community (Corcoran, Hoppe, Luhm, &
Supovitz, 2000). This model aimed to emphasize literature, comprehension, and
meaning–making with text. The model provided schools with instructional materials and
strategies. In this model, reading and writing workshops, as well as genre and author
studies at each grade level, were the basis of instruction. “The model seeks to promote
students' independent reading through classroom libraries, a book of the month, and a
campaign in which students are encouraged to read 25 books” (Taylor, Raphael, & Au,
2011, p. 599). Schools were asked to start with the teaching of writing followed by
reading and mathematics (Correnti & Rowan, 2007). In a quasi–experimental study, May
and Supovitz (2006) found that students’ performance in reading in America's Choice schools was significantly higher than students’ performance in reading in other schools.

All in all, the three aforementioned CSR models were somewhat effective in increasing the students' reading performance. The disadvantaged students or the students who scored low previously were still far below national norms. Therefore, No Child Left Behind was authorized to overcome the achievement gap between students from low income families and students from high income families.

**Elementary and Secondary Education Reauthorization Act– No Child Left Behind (2001)**

No Child Left Behind (NCLB) was the federal reauthorization of the Elementary and Secondary Education Act (Jennings, 2003). It is seen as one of the most influential educational reforms in the United States (Apple, 2008), and it was passed by Congress in 2001 and signed by President Bush in 2002. NCLB represents a set of initiatives that center upon testing and accountability (Jennings). Despite the billions of dollars invested in many programs with the ESEA of 1965, many "American students still lag behind many of their fellow foreign students and the academic achievement gap in this country between rich and poor, White and minority students, remains wide" (U. S. Department of Education, Office of Elementary and Secondary Education, 2002, p. 9). Thus, NCLB focused on failing schools in order to hold them accountable and overcome this achievement gap.

In the 2001 budget proposal of the Bush Administration, it is highlighted that "many children in America are segregated by low expectations, illiteracy, and self–doubt"
Schools in the United States began spending more time and resources on the teaching of mathematics and reading as a result of the testing and incentives of the federal NCLB law. Two new reading programs were added to the Elementary and Secondary Education Act with NCLB; Reading First and Early Reading First (U. S. Department of Education, 2014).

The Reading First program was established and mandated by the No Child Left Behind Act of 2001 in Title I, Part B. This program centered on effective methods of early reading instruction. States and districts received financial support to apply proven instructional tools consistent with scientifically based research to ensure that all children could read well by the end of third grade. The program provided funding to states and districts to establish research–based reading programs, to increase teacher professional development to teach these programs effectively, to prepare classroom teachers to identify and overcome the reading difficulties of students, and to develop instructional materials to implement effective methods to teach reading (U. S. Department of Education, 2014). Research shows that a student should master the skills of phonemic awareness, phonics, fluency, vocabulary, and comprehension in order to read successfully (Allington, 2006). Thus, the Reading First program provided funding to the school districts and states to teach these five elements (Allington, 2006).

The Early Reading First program was initiated to address the growing concern that many children begin kindergarten without the required foundation to benefit from formal school instruction. The program supported early childhood centers with a focus on early language, cognitive, and pre–reading skills by providing funds to these institutions.
The program primarily supported early reading foundation for preschool–age children, especially children from low–income families to prevent reading difficulties and to support school success (U. S. Department of Education, 2014).

The Reading First and Early Reading First programs of NCLB influenced literacy education more effectively than any other reforms because they were the largest and most focused reading initiatives of the United States (Allington, 2006). Although NCLB was proposed as an effective school reform, many of the provisions of NCLB have been found to be controversial (Apple, 2008). For example, Apple (2008) noted how controversies surround NCLB’s definition of success and accountability, budget and the loss of local control, the redefinition of literacy and reading instruction, and its emphasis on teaching literacy with only one set of strategies (Apple, 2006; Peterson & West, 2003).

**Common Core Standards (2010)**

School curricula in the United States have shifted toward an increased focus on the subjects of reading and math in recent years. This shift is a result of the Common Core State Standards (CCSS) Initiative of 2010, which is a state–led effort that developed a single set of educational standards for kindergarten through 12th grade in English language arts and mathematics. CCSS were designed to focus on preparing students for college (Phillips, & Wong, 2010). The adoption of the standards has been voluntary, yet a majority of the states have adopted them (Common Core State Standards Initiative, 2014).

The CCSS were designed to provide students with the skills and knowledge they need to be successful. They represent standards that are consistent across many of the
states in English Language Arts and Mathematics. The standards have been supported (Phillips & Wong, 2010; Porter, McMaken, Hwang, & Yang, 2011; Rothman, 2012) as well as criticized (Porter, Smithson, Blank, & Zeidner, 2007) by scholars since they began to be implemented.

The standards were prepared only for the subjects of English Language Arts and Mathematics. The Initiative committee stated that the main reason for this focus is that these are areas in which students build skills that can be used in other subjects, and these areas are also the subjects that are most frequently assessed for accountability purposes (Common Core State Standards Initiative, 2014). Literacy instruction is under the English Language Arts part of the CCSS. Common Core State Standards for the English Language Arts are divided into the skills of reading, writing, speaking, listening, and language. There are some connections between the skills throughout the standards. For example, students are asked to write about what they read in Standard 9 of the writing skill.

The significance and depth of reading is apparent throughout these standards because the standards put equal emphasis on what students read and the skills that they need to build for reading. In addition, reading in all content areas, independent reading, text complexity, connections among ideas and between texts, textual evidence, and reasoning are among the major considerations throughout the reading standards. Writing is also considered in–depth throughout the writing standards with the variety of writing types to be learned by the students as well as paying attention to planning, revising, editing, and publishing (Common Core Standards Initiative, 2014).
Digital learning environments are also included in the CCSS with the 2014–2015 Common Core Online Assessments (International Society for Technology in Education, 2014). Digital environments might change what it means to be literate (Coiro, Knobel, Lankshear, & Leu, 2008; Lankshear & Knobel, 2007). Simply stated, digital/technological literacy refers to the ability to read, compose, and communicate in digital environments. Technological literacy was affected by various political, economic, and historical factors, such as the development of microcomputers in the late 1970s, the expansion of the U.S. computer industry in the 1980s, and the decision of the Clinton administration to invest in technology in the 1990s (Hawisher, Selfe, Moraski, & Pearson, 2004).

In today's classrooms, literacy instruction is undergoing extraordinary transformations as new technologies require new literacy skills (Leu, Kinzer, Coiro, & Cammack, 2004). New literacy teachers, who are interested in students' media practices, realize the importance of students' interactions with technological texts and view these interactions as meaningful and purposeful (Compton–Lilly, 2009). The International Reading Association (2009) promoted the integration of technology into the classrooms as an important curricular goal of 21st century literacies. Technology has long been suggested as a solution for the needs of struggling readers (Anderson–Inman & Horney, 2007; Boone & Higgins, 2007), because technology is adaptable with the individual needs of struggling readers (Cheung & Slavin, 2013).

Curriculum reforms related to literacy education is central to framing this study, because they drive early and contemporary literacy practices in schools. Daily operations of schools are significantly affected by national and state mandates in school curriculum.
In this section, I focused specifically on curriculum reforms in literacy education that are positioned in the United States.

**Chapter Summary**

In this chapter, I have discussed literature surrounding the conceptual framework of this study and examined the research related to literacy instruction and technology use for struggling readers. Research that frames this study revolves around *Constructivism, Critical Sociocultural Theory, and Curriculum Reforms and Curriculum Influences Related to Literacy*. *Constructivism* is a crucial theme, since it explains how reading is a constructive process. This theory guided me in scaffolding struggling readers in my study. *Critical Sociocultural Theory* addresses how literacy is both a social and cultural practice within and beyond schools. This theory enabled me to focus on identity, agency, and power in the production of knowledge in this study. *Curriculum Reforms and Curriculum Influences Related to Literacy* address early and novel literacy practices in schools and how they influence literacy education in the United States. This guided my study in terms of understanding the literacy practices in public schools. Together, these themes describe the major elements that inform the shaping of my inquiry.

The next chapter will provide a review of literature surrounding reading instruction and technology use, specifically the use of interactive digital books with struggling readers. First, I explain how motivation affects struggling readers. Second, I highlight why it is important to teach reading and writing together. Third, I discuss literature that shows the strong relationship between reading and spelling. Fourth, I address educational technology use in reading instruction for struggling readers. Fifth, I describe literature relevant to the comparison of traditional print books to digital books.
Sixth, I focus on studies on digital books in reading instruction. Finally, I illustrate studies on the use of interactive digital books with struggling readers.
CHAPTER 3
LITERATURE REVIEW

Reading is a complex task that requires effective instruction in teaching children to read. Weaver (2009) defines reading as "both a psycholinguistic process (involving the mind actively processing the text) and a sociolinguistic one (with multiple social factors that can affect how one reads, how much one gleans from the reading, and more)” (p. xiii). Reading is crucial to success in life (Zimmermann & Hutchins, 2003). Zimmermann and Hutchins further highlighted the significance of reading with the following statement:

Reading opens the door to virtually all other learning. You have to be able to read to learn mathematics, science, history, engineering, mechanics, political science, not to mention to surf the Web or figure out how to operate that new DVD player. Basically, you have to be able to read to succeed. (p. 4)

Individuals who struggle in reading in the early elementary grades will continue to have difficulty in all academic areas (Allington, 2012). Poor literacy even results in unemployment, poverty, and crime (Zimmermann & Hutchins, 2003). Thus, struggling readers need immediate attention and effective interventions to provide support for current and later success in life.

Although various interventions have been used to support struggling readers, they continue to have difficulty in state and standardized reading tests. Struggling readers will continue to fail these reading tests unless effective interventions are initiated to support their literacy practices. Technology use has been one of the most popular interventions in reading instruction for struggling readers (Cheung & Slavin, 2013). Research has backed up the importance of providing support through using new literacy tools for struggling

The review of literature in this study was developed in six sections. The first section explains why some struggling readers want to read while other struggling readers avoid reading. The second section discusses the importance of integrating reading and writing instruction. The third section addresses research on the relationship of reading and spelling, and why they should be taught as connected skills. The fourth section puts forward studies on educational technology use in reading instruction for struggling readers. The fifth section describes the literature relevant to the comparison of traditional print books to digital books. The sixth section analyzes studies on digital books in reading instruction. The final section focuses on the studies on the use of interactive digital books with struggling readers. The review of literature shows how this study fits into what is already known about the use of interactive digital books with struggling readers and how these digital books contribute to the understanding of how struggling readers might be motivated to succeed to read at their grade level with the use of interactive digital books.

**Reading Motivation**

Guthrie and Wigfield (2000) defined motivation as “the individual’s personal goals, values, and beliefs with regard to the topics, processes, and outcomes of reading” (p. 405). Reading motivation is a significant factor that impacts the time and effort spent on the reading process. Motivation is important for readers to engage in texts, since reading often requires choice (Wigfield, Guthrie, Tonks, & Perencevich, 2004). In the position statement of the International Reading Association, “the development and
maintenance of motivation to read” is listed as one of the main prerequisites for deriving meaning from print (International Reading Association, 2000).

Motivation is at the core of many problems teachers face when they teach young children to read (Gambrell, Palmer, Codling, & Mazzoni, 1996). The underlying theory behind this problem is the engagement model of reading comprehension development proposed by Guthrie and Wigfield (2000). They suggested that reading comprehension is the result of an extended amount of engaged reading, and motivated children will spend more time reading (Wigfield & Guthrie, 1997). The deficiency of motivation becomes a problem that needs to be solved, because motivation affects the growth of reading comprehension. In addition, motivation to read is not only a problem for struggling readers, but also for students who can read, but who do not want to read.

Reading teachers are concerned about how to motivate children to read. In a study with 4th grade students, Edmunds and Bauserman (2006) recommended self–selection, attention to characteristics of books, personal interests, access to books, and active involvement of others in order to increase students’ reading motivation. Moreover, the literature shows that reading motivation is influenced by various factors, such as curiosity or interest; preference for challenge; involvement; self–efficacy; competition; recognition; grades; social interaction; and work avoidance (Baker & Wigfield, 1999; Wigfield & Guthrie, 1997). Teachers might motivate struggling readers to read once they consider the aforementioned factors in designing their lessons.

Another reason that poor readers might experience a lack of motivation for reading is their fear of failure (Aunola, Leskinen, Onatsu–Arvilommi, & Nurmi, 2002; Chapman, Tunmer, & Prochnow, 2000), along with infrequent engagement with reading
tasks (Morgan, Fuchs, Compton, Cordray, & Fuchs, 2008). Poor readers read less frequently and they tend to continue not to develop their reading skills, since they tend to have less motivation to read. Thus, low motivation becomes both a cause and a consequence of reading failure (Guthrie & Wigfield, 1999; Oldfather & Wigfield, 1996). Since reading is a skill that needs practice to be advanced, when students read more, they will master the reading process.

There are mainly two kinds of reading motivation: intrinsic motivation and extrinsic motivation. Guthrie and Wigfield (2000) defined intrinsic motivation for reading as the disposition to read only for enjoyment, interest, and excitement. Reading that is influenced by intrinsic motivation is performed solely for its own reward (Pintrich & Schunk, 2002; Ryan & Deci, 2000). On the other hand, extrinsic reading motivation is defined as reading to obtain external recognition (Deci & Ryan, 1985; Wang & Guthrie, 2004), rewards, or to avoid punishment (Hidi, 2000).

Reading motivation is an important aspect of literacy instruction, because it deals with students’ desire to read or to avoid reading. The literature on reading motivation enables me to understand why some struggling readers might struggle with reading. The next section will discuss reading and writing connections, in terms of their similarities and differences.

**Reading and Writing Connections**

Even though the origin of reading–writing connections dates back to 1929, the connections were of major concern in the 1980s and the 1990s. Before the 1990s, reading was conceived as a receptive skill, while writing was a productive one, so they were
taught independently. Readers were believed to decode the text while writers encode it (Parodi, 2007).

Traditional theories argued that reading was a passive process and writing was an active process (Shanahan, 1984). However, there has been a fundamental shift with constructivism, in which it is proposed that learners construct meaning actively through interaction with their environment. Reading was no longer described as a passive activity in which subjects decode and record traces of external reality in memory. Instead, according to the constructivist notions, readers construct or create messages through a variety of active processes (schema construction, prediction, etc.). Learners actively use prior knowledge to create information in reading and writing (Shanahan, 1984).

Influenced by constructivism, researchers used a technique of protocol analysis in order to find out what occurs in the minds of readers and writers when they construct meaning from text through think alouds. They found that there are many similarities between reading and writing. As a result, instead of teaching reading and writing as isolated, discrete skills, researchers proposed whole language, teaching reading and writing together (Mason, 1989).

Reading and writing are connected and correlated processes in particular ways. At the heart of comprehending reading and writing connections lies the view that they are similar processes of meaning construction (Tierney & Pierson, 1983). Reading and writing are both acts of composing. Readers actively compose meaning from text while writers actively compose meaning into text. It was widely accepted that readers construct meaning; however, the fact that writers construct meaning was proposed by Tierney and Pierson (1983). They explained that writers construct meaning by describing the steps in
composing; planning, drafting, revising, aligning, and monitoring. They further suggested that both readers and writers pass through similar stages in constructing meaning.

The acts of reading and writing both require written language for communication. Readers communicate with the text in trying to understand the author’s cues while writers communicate with the text that they construct. Readers and writers both tap into prior knowledge. They both plan before they consult their prior knowledge. Reading and writing are active, thinking processes. Readers and writers go back to go further (Savage, 1998). Reading and writing are the continuum of oral language in terms of speaking and listening (Lindfors, 2008). No matter how much these four skills have their own developmental processes; they interact with each other many times.

Reading and writing use similar cognitive structures and strategies (Graves, Juel, Graves, 1998). The similar cognitive structures are working memory, linguistic cohesion, and meaning, while the cognitive strategies are searching for meaning, monitoring, and self-correcting. Reading and writing are both meaning–making processes, in which readers construct meaning from author’s cues to come to grips with what the author means while writers construct their own meaning (Savage, 1998).

Reading and writing are interactive processes. They both use language for interaction. Readers interact with the author’s text while writers interact with their own texts (Olson, 2007). They are both purposeful activities in which readers and writers have a purpose before they begin reading or writing. Even though good readers are also good writers, there are also good readers/poor writers and poor readers/good writers.

Readers and writers also have shared knowledge. Fitzgerald and Shanahan (2000) focused on four shared knowledge types between reading and writing; (1) meta–
knowledge, (2) domain/content knowledge, (3) knowledge of the universal text attributes, and (4) procedural knowledge. According to these common knowledge structures, meta-knowledge is the knowledge about the functions and purposes of reading and writing. Domain or content knowledge includes prior knowledge and semantics. Knowledge of the universal text attributes is the knowledge about graphophonics, text format, and syntax. Finally, procedural knowledge is the knowledge on how to use, access, and generate text.

A few studies have looked at the correlations between reading and writing (Fitzgerald & Shanahan, 2000; Tierney & Pearson, 1983). The results of these studies have found that there is a strong correlation at the word level. Strong connections exist between word recognition and spelling.

Some studies have also found connections between reading and writing in second languages (Carson, Carrell, Silberstein, Kroll, & Kuehn, 1990; Grabe, 2003). They focused on reading to write; writing to learn from multiple texts; directionality, whether reading influences writing or writing influences reading; and transfer from the first language (L1) to the second language (L2). They found that L1 literacy skills transfer to L2 literacy skills. More specifically, Carson et al. (1990) found that reading skills in L1 transfer to reading skills in L2 more than writing ability.

In an exploratory study of learning to read and write at the elementary school level, Shanahan (1984) found that reading and writing are significantly related at both the second and fifth grade levels. Shanahan further concluded that phonics knowledge is the most important aspect of reading that relates to writing performance for beginning
readers. For beginning readers, spelling appears to contribute more highly to the reading–writing relationship than do the other variables.

As connected as reading and writing are, they are also quite separate, because recognition and production are so cognitively different (Fitzgerald & Shanahan, 2000). Writers begin with a blank page to construct meaning while readers already have a reconstructed text by an author. While writers construct text, readers access text. Reading requires recognition while writing requires production. Writers use their own structures while readers are introduced to new structures in a text (Savage, 1998). The differences are as significant as close connections between reading and writing. It is also necessary to provide separate instruction and experience in each, though different combinations can be valuable for taking advantage of any overlap.

As it is understood from the literature in reading–writing connections, there is a strong relationship between reading and writing. Instruction in reading might benefit writing proficiency; while instruction in writing might result in better reading proficiency. Tierney & Pearson (1983) found that good writers tend to spend more leisure time in reading, and good readers tend to write better. Also using more advanced structures in writing increased with more advanced reading. Fitzgerald and Shanahan (2000) further discussed considering the separation of them. They suggested that teachers teach reading and writing separately as well as together to make students aware of the differences and similarities.

If reading and writing involve similar cognitive processes, then instruction in one would lead to increased ability in the other. Reading and writing are thus the basic reflections of the same cognitive processes of comprehending and composing. Therefore,
it would not be appropriate to exclude writing from reading instruction. This study mainly focuses on the reading experiences of struggling readers; yet writing experiences will be an integral part of their reading experiences as a way of showing their comprehension of the interactive digital texts. Therefore, reading and writing connections are crucial to discuss and include in this literature review. However, reading and writing assessments are not enough to make thorough judgements about students’ literacy development. Spelling assessments should also be included to understand students’ literacy development. In the following section, I will discuss the relationship of reading and spelling, and why it is important to include spelling knowledge of students into their literacy assessments.

The Relationship of Spelling to Reading

Bear, Invernizzi, Templeton, and Johnson (2016) resembled literacy to a braid of interwoven threads. They further explained that oral language and stories read to children are where the braid begins with the intertwining threads. The thread begins to bond as children learn more words to add to their growing vocabulary and begin writing and reading. What strengthens the bonding in the threads of literacy is students’ increasing knowledge of spelling, also known as orthography. Orthography represents “the ways in which letters and letter patterns in words represent sound and meaning” (Bear, Invernizzi, Templeton, & Johnson, 2016, p. 3).

There is a strong connection between spelling and reading ability. Krashen (1989) discussed the Input Hypothesis (IH) in relation to the relationship between vocabulary, spelling, and reading. Input Hypothesis simply assumes that humans acquire language by comprehending messages. Krashen (1989) argued that spelling and vocabulary
proficiency is most efficiently acquired by comprehensible input in the for Smith 1982 m of reading. Similarly, August (2011) found that spelling instruction along with vocabulary learning can improve reading comprehension.

Research also showed that spelling ability develops across time with increasing efficiency (Treiman & Bourassa, 2000). Individuals learn to spell using different strategies that overlap across time, which is also called overlapping waves model. The studies related to the overlapping waves model show strong connections between spelling and reading through an analysis of invented spelling and measures of phonological awareness and reading in early grades (Rittle-Johnson & Siegler, 1999).

In a linguistic analysis, Read (1971) analyzed young children’s spelling attempts. The results of his study showed that preschoolers’ attempts to write were not random drawings, but their invented spellings opened a window into their improving word knowledge. This is because Read found out a systematic logic to the way they chose some letters to represent speech sounds.

Building on the work of Read’s study, Templeton and Bear (1992) came up with a developmental word knowledge. According to developmental word knowledge, students’ errors showed an underlying logic in that they changed over time, moving from the spelling of single letters and letter patterns to the spelling of suffixes and word roots (Henderson, Estes, & Stonecash, 1972). According to this developmental model, students’ errors in spelling showed their understanding of written words (Invernizzi, Abouzeid, & Gill, 1994).

In a study examining the role of home literacy, parental education, and demographic factors, Al Otaiba, Puranik, Rouby, Greulich, Sidler, and Lee (2010)
volunteered 288 kindergarten students from an economically and ethnically diverse population. They analyzed their participants’ spelling three types of words: sight words, decodable real words, and decodable pseudowords. The results of the study showed that kindergarteners showed increased use of their knowledge of phonology, letter sounds, and word reading to spell words.

The previous section discussed studies that showed the connections between reading and writing. This section reviewed literature showing the relationship between spelling and reading. Bear, Invernizzi, Templeton, and Johnson (2016) explained that “there is a synchrony in the development of reading, writing, and spelling” (p. 23). An analysis of students’ reading and writing might help teachers to understand students’ development in literacy to some extent. However, for a thorough understanding of students’ literacy development, assessments should also include an analysis of students’ spelling knowledge. An analysis of students’ spelling errors might enable teachers to differentiate and provide timely instruction in the subskills of phonics, spelling, and vocabulary, which, as a whole, will contribute to students’ reading and writing (Bear, Invernizzi, Templeton, & Johnson, 2016). Therefore, in this study, I am using an analysis of my participants’ spelling assessed by their teachers along with an analysis of my participants’ reading and writing abilities in order to fully understand their literacy experiences. In the next section I will discuss literature related to the use of educational technology in reading instruction.

**Educational Technology in Reading Instruction**

Technology use in reading instruction has been a significant aspect to support the literacy practices of children for the last two decades. In 1997, the National Institute of
Child Health and Human Development (NICHHD) established a National Reading Panel (NRP) in conjunction with the U.S. Department of Education. The NRP aimed to find the most effective ways of teaching children to read. According to the report of the NRP, research on the use of computer technology in reading instruction was necessary to find out the best ways of teaching children to read (National Reading Panel, 2000). Similarly, International Reading Association (IRA) (2009) promoted the integration of technology into the literacy classrooms as an important curricular goal of 21st century literacies. IRA additionally highlighted that the integration of technology brings a novel dimension for reading instruction as students experience digital literacies besides traditional literacies.

Recently, the Common Core State Standards included using technology for literacy learning by embedding detailed reading standards in an effort to prepare students for success in college, career, and life (Common Core State Standards Initiative, 2010).

With the necessity of integrating technology into classrooms and developments in technology, interest in studies using technology as a tool to support children’s literacy practices has increased. Over a decade, various studies have investigated learning environments that use new literacy tools to support struggling readers in literacy classrooms (Cheung & Slavin, 2013; Falth, Gustafson, Tjus, Heimann, & Svensson, 2013; Gibson, Cartledge, & Keyes, 2011; Laverick, 2014). Educational technology has been the most effective and widespread new literacy tool in reading instruction. Educational technology refers to the use of technology that supports the learning process to improve academic goals (Cheung & Slavin, 2013).

Although there is abundant research on the use of educational technology in literacy practices (Cheung & Slavin, 2013; Falth, Gustafson, Tjus, Heimann, & Svensson,
2013; Gibson, Cartledge, & Keyes, 2011; Laverick, 2014), not many of them focus on the use of educational technology in the reading practices of struggling readers. For instance, Laverick (2014) conducted a study with reading specialist candidates to find out if the use of technology–based reading instruction improved the reading proficiency of students who were struggling readers. The candidates used technology–based instruction and assessment with their students during a summer reading program. The results of the study indicated that technology–based instruction was effective in improving the reading proficiency of struggling readers.

In a review to examine the effects of educational technology applications on the reading achievement of struggling readers in elementary schools, Cheung and Slavin (2013) reported that educational technology applications caused a small, but positive effect on the reading skills of struggling readers. Based on the reviewed research, they also concluded that younger struggling readers benefit from educational technology applications more than older struggling readers do.

A majority of the studies on educational technology use in the reading instruction of struggling readers specifically explored the use of computer–based technology. For example, in a study to examine the effects of a computer–based reading program, Gibson, Cartledge, and Keyes (2011) worked with eight African American first graders, who were identified as struggling readers based on their scores on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). They designed a computer–based reading program to improve reading fluency and comprehension. The participants engaged in the program 3–4 times every week for 14–16 weeks. The results of the study showed that the particular
computer–based reading program increased the reading rate, fluency, and comprehension of struggling readers.

In a longitudinal study, Falth, Gustafson, Tjus, Heimann, and Svensson (2013) investigated the effects of three computer–assisted interventions on the reading skills of struggling readers. The participants were 130 students in Grade 2. The researchers randomly divided the participants into four groups. While three groups received computerized training programs (one focusing on word decoding skills and phonological abilities, one focusing on word and sentence levels, and the other on a combination of the first two), the fourth group received ordinary instruction. The findings indicated that computerized programs did not cause a significant effect, because all groups improved their reading skills. However, the combined training group performed better than the group that received ordinary instruction.

Not all the studies; however, supported that computer–assisted instruction would benefit struggling readers. The literature also showed that computer–assisted instruction did not always make any difference in the reading performance of students. In a study to examine the effectiveness of computer–assisted instruction versus independent reading, Sorrell, Bell, & McCallum (2007) volunteered 12 elementary school–aged children who were nominated by their teachers as weak readers. All the subjects participated in the two conditions (reading from a book and reading on the computer) for 45 minutes every day for 4 to 5 days per week for 4 weeks. The results showed no significant difference in comprehension scores in both conditions.

Recently, the focus of studies has shifted towards using digital books in reading instruction. Some of the research in that area report on a comparison of using digital...
books to traditional print books. The next section will provide a discussion of research that addresses the transition from traditional print books to digital books, the comparison of their similarities and differences, and the experimental studies that compare the use of the two kinds of books.

**Traditional Print Books versus Digital Books**

Traditional print books are printed texts on paper so that they cannot be easily changed by a consumer (Daniel & Reinking, 1987). On the other hand, digital books are the electronic devices that store hundreds of books, newspapers, and magazines; enable readers to look up information via built-in dictionaries; and provide customizable settings for each reader (Larson, 2010). Some of the widespread digital reading devices include but are not limited to Kindle, Sony Reader, Nook, iPad, Cybook OPUS, and iLiad.

Although the move from traditional print books to digital books has been quick in the last couple of years, both are still widely used during this transition period. There are some differences as well as a few similarities between digital books and traditional print books. The two types of books are similar in that they have similar goals: to be written for an audience, and clear content (MacArthur, 2006). Traditional print books and digital books are also similar because both represent the text in a traditional format. However, linearity of patterns of reading is different in traditional print books than digital books. Traditional print books encourage individuals to read printed text in sequential order from beginning to end (Park & Helsel, 2008); however, digital books allow readers to move flexibly between the pages in a nonsequential order (Berk & Devlin, 1991).
While traditional print books include words, pictures, and graphics, digital books surpass traditional print books with the multimodal features, such as sounds; animations; videos; and narrations (Schugar, Smith, & Schugar, 2013). Narration and "hot spots" that respond to user touch, followed by games, sound features, and text highlighting are the most popular interactive features of digital books that are not available in a traditional print book. The presentation of text, such as print, font size, color, spacing between letters, words, sentences, and even paragraphs, and alignment also differs between traditional print books and digital books (Park & Helsel, 2008).

Besides, digital books challenge the linear left–to–right and top–down processing of traditional print books with the multimodal and multidimensional representations of the text (Leu, 2002). Reading from a traditional print book might appear to be similar to reading from a digital book to the casual observer because letters and pictures in the digital books are represented in a similar format to traditional print books. However, there are some crucial differences that distinguish digital books from traditional print books, such as turning the page; menus navigation; illustrations manipulation; and narration features (Javorsky & Trainin, 2014).

Moreover, the external links that are available in 80% of digital stories bring the idea that young readers maintain a sense of place as they read. However, a traditional print story is self–contained, which means "a reader who immerses herself in its pages at the beginning will remain within that narrative until the end" (Javorsky & Trainin, 2014, p. 610). Digital reading of a text is different from reading while sitting in the lap of a mom or dad in that it is not only physically different, but also cognitively different with new media enlivening old media in new ways (Guernsey, Levine, Chiong, & Severns,
The physical difference is most obviously apparent in even page-turning. While an individual grasps, lifts, places the pages of a traditional print book, he or she holds, points, and clicks the pages of a digital book, which requires different motor abilities (Roskos, Brueck, & Widman, 2009).

Some of the studies have examined a comparison of reading text on the computer to reading from a book. These studies found significant differences in basic reading skills when computers were used instead of traditional print books. For example, Cole and Hilliard (2006) examined the benefits of using Web–based instruction on struggling readers’ performance and motivation. The target population was 36 students from 3rd grade who performed two or more grade levels behind in reading. The participants were randomly assigned to experimental and control groups to receive Web–based or traditional reading instruction. The researchers concluded that there was a significant correlation between reading performance and motivation among struggling readers. The results showed that basic reading skills in the areas of decoding, fluency, and comprehension increased for the experimental group students.

In another study with 49 preservice teachers, Larson (2012) asked participants to read a text both in print and digital book formats. Larson collected data through the pre– and post–reading reflections, field notes, lesson plans, and audio–recorded classroom discussion. The findings of the study showed that a majority of the preservice teachers (53%) felt reading from a digital book supported their comprehension. However, when they were asked to choose reading from either a print book or digital book, 65% preferred reading a print copy.
With the widespread use of digital books, some studies even held the position that digital books may take over print books with their benefits for readers. In a study designed to discuss the future of reading and writing, Bromley (2010) argued that digital texts improved gradually and threatens to take over the traditional texts. Bromley proposed that technology will replace paper, pens and pencils; reading and writing electronically will be common. This assertion is supported by the sales of Amazon.com in 2011. Digital book sales of Amazon surpassed the print books for the first time in May 2011 (Bloomberg News, 2011). However, Larson (2012) pointed out that “e–book reading should not aim to replace print books” (p. 289).

Other studies explain that neither traditional print books nor digital books have superiority over the other. Salmerson, Canas, Kintsch, and Fajardo (2005) indicated that some students could comprehend complex multimodal features in digital environments while others comprehend the text better when it is presented in a traditional linear way as in traditional print books. In a study explaining how electronic text and book–based text differ, Park and Helsel (2008) noted that they both have advantages and disadvantages. Similarly, de Jong and Bus (2004) found no difference in comprehension between reading digital books and traditional print books among kindergarten students.

Although literature has conflicting perspectives about the use of digital books over traditional print books, it is undeniable that digital books have entered our lives as much as traditional print books. Sporkin (2011) showed how much the use of digital books expanded with statistics in that the digital book market grew 169.4% whereas print book market dropped 24.8%. With the popularity of digital books in our lives, they have begun to be used in reading instruction as well. In the next section, I will provide an
overview of the use of digital books in reading instruction, their benefits for readers, more specifically the benefits for struggling readers, and I will explore the literature that reported studies on the use of digital books in reading instruction.

**Digital Books**

In the 21st century, literacy education is on the move from traditional print books to digital books (Javorsky & Trainin, 2014; Leu et al., 2009). With the widespread use of the digital books, the way children learn, think, give, and receive information has changed dramatically (Dresang & McClelland, 1999). Schugar, Smith, and Schugar (2013) suggested that digital books might change the way students read and process text because of their interactivity and convenience. In digital learning environments, “reading has gone beyond comprehending or text processing, and is regarded as intricate and complex. Students are involved in the use of different modalities and representations in processing reading content cognitively” (ChanLin, 2013, p. 331). Similarly, Dresang and McClelland (1999) further described how digital books are changing the way we interact with the text with the following explanation.

Books for young readers that reflect this graphic, interactive awareness bring a new level of synergy between words and pictures, promote interaction at a new level of intensity between book and reader, and often abandon the linear and sequential progression. We use linear to mean a one–way–only progression and sequential to mean what comes next clearly follows what came before. (p. 162) Prensky (2001) claimed that the stimulation of electronic resources actually modifies brain structures and impacts the way people think. Digital books have created an area of new teaching and learning possibilities to support the reading practices of children
They offer a new kind of storybook reading experience for young children, grabbing not only their interests, but also boosting their early literacy skills and concepts (Bus, de Jong, Verhallen, & van der Kooy–Hofland, 2009; de Jong & Bus, 2002; Korat & Shamir, 2007). Digital books offer readers, especially struggling readers, new opportunities to engage in books and text with enhanced learning support (Dalton, 2014). Digital books also offer new opportunities to develop students’ reading fluency, a significant skill of proficient readers (Thoermer & Williams, 2012). Besides, digital books enable readers to master traditional reading skills, provide access to new tools and resources, and prepare them for the workplaces of the 21st century (McNabb, Hassel, & Steiner, 2000).

Some of the research in this area reported that the use of digital books resulted in positive outcomes for students. For instance, in a qualitative case study discussing how digital reading devices advance digital book readership among primary students by providing new avenues for accessing and interacting with a wide array of texts, Larson (2010) focused on the experiences of two second grade students of diverse reading levels and ethnic/linguistic backgrounds with the use of Kindle, a digital reader device. Larson collected data through field notes, interviews with participants, their classroom teacher, and their parents as well as students’ digital notes, and markups. The results of the study indicated that new literacy practices were promoted, and connections between the readers and text were extended through engagement with and manipulation of text using Kindle with second grade students.

In another study to find out the effectiveness of digital books in promoting phonological awareness and concept about print, Shamir and Shlafer (2011) worked with
136 kindergarten students aged 5–7 in Israel. Participants were randomly assigned to an experimental group (n=70) and a control group (n=66). Students in the experimental group were exposed to a digital book in six structured sessions with each session lasting 20–35 minutes. All participants were administered cognitive assessment subtests as well as phonological awareness and concept about print tests, which were retested following the intervention. They concluded that experimental group students performed better, especially in the area of concept about print after the digital book implementation.

Research reporting the positive outcomes of digital books also suggested that using digital books might help with reading fluency. In a study, Esteves and Whitten (2011) compared the efficacy of assisted reading with digital audiobooks to the traditional practice of Sustained Silent Reading (SSR) in terms of reading attitude and fluency with students with reading disabilities. They concluded that although there was no significant difference in reading attitude scores, teachers can promote greater growth in reading fluency when assisted reading with digital audiobooks is implemented as a substitute for SSR.

Based on the reviewed literature, using digital books in reading instruction seems to benefit struggling readers; however, teachers should not use them merely to integrate technology into their classrooms. Research displays that there are issues to consider before deciding to use digital books in the classroom. For instance, teachers should know that simply using these tools does not prepare students for new expectations for literacies, and that teachers should be open to embrace the constant changes of these new literacies (Leu, Mallette, Karchmer, & Kara–Soteriou, 2005). Teachers should also consider students’ prior experiences with the technology in addition to their prior knowledge of
and ability to relate to the text (Larson, 2012). Additionally, teachers must carefully evaluate the technology available, how and where to access digital books, how to download them, and, of course, the cost involved when using digital books in K–12 reading classrooms (Larson, 2007). The literature shows how these are important factors for teachers to think about even before deciding to use digital books in classrooms.

Recently, digital books have also begun to include more features to attract readers. These enhanced features in digital books provide readers with more interaction with the text. This resulted in a new array of studies for researchers working with struggling readers. The next section will provide a discussion of interactive digital books, address conflicting perspectives on the integration of interactive digital books into reading instruction, and report on experimental studies using interactive digital books with struggling readers.

**Interactive Digital Books**

Digital books have many different forms. Some of the digital books on digital reading devices are linear as in Kindle or Nooks, but others have multimodal features, such as hyperlinks; audio; video; and images (Larson, 2012) as in iPad or Samsung Galaxy Tab. Some of the literature refers to digital books with multimodal features as enhanced digital books, whereas other studies use the term *interactive digital books*. In this study, these books are named as *interactive digital books*. More specifically, interactive digital books are the electronic devices that have multimodal features (moving the objects on the page, narration to listen to words, highlighting, built–in dictionaries, adjusted font size, and/or even animations); and provide multimedia content (videos, games, and puzzles) (Schugar, Smith, & Schugar, 2013); and provide customizable
settings for each reader (Larson, 2010). Javorsky and Trainin (2014) described the interactivity in digital books with an example:

With the touch–screen abilities of many mobile devices, tapping or swiping at words or pictures can, and often does, induce animations and sounds. For example, in the digital story, The Grumble Noise, touching any part of the text will cause it to glow while a narration of the sentence plays, and tapping on a cookie in one of the illustrations will cause it to appear to be eaten away until only crumbs are left. In that particular example, once the young reader touches the cookie for the first time, reducing it to crumbs is a fairly intuitive process. (p. 610)

Interactive digital books support struggling readers with the features of manipulation of font size, text–to–speech options, expandable dictionary, and note taking features (Larson, 2010). Human voice narration featured in interactive digital books allows struggling readers to read, listen, and learn from the text without worrying about decoding or fluency issues (Dalton, 2014). Interactive digital books also support vocabulary learning and comprehension when animations and sound effects are related to the content (Zucker, Moody, & McKenna, 2009); however, research displayed how one must be careful in using them, especially with children. When such interactive features are irrelevant to the text, they might distract readers and even interfere with their recall of significant details (Dalton, 2014).

The literature offers conflicting perspectives on the integration of interactive digital books into reading instruction. Research addressing the disadvantages of interactive digital books highlight how multimedia features in interactive digital books might be a burden for children's working memory (Verhallen, Bus, & de Jong, 2006).
Multimodal features (animations, sounds, etc.) in interactive digital books might also distract children as they read and comprehend a story (Burrell & Trushell, 1997; de Jong & Bus, 2002; Schugar, Smith, & Schugar, 2013). A similar concept of distraction, "seductive details effect" was put forward by Garner, Gillingham, and White. Seductive details effect addresses aspects of texts that are likely to interfere with students' abilities of understanding the most important parts of the texts that they read (Garner, Gillingham, & White, 1989). This effect might appear in the users of interactive digital books more as these books are designed to include many options to engage the reader.

While some researchers reviewed the drawbacks of the interactive graphics in digital books, other researchers argued for their benefits (Labbo & Kuhn, 2000; Verhallen, Bus, & de Jong, 2006). Studies identified the positive outcomes of design features in interactive digital books as animated illustrations and embedded word aids (Roskos, Brueck, & Widman, 2009). Interactive digital books offer interactive graphics and audio features, aiding young readers to develop flexibility and persistence while reading (Javorsky & Trainin, 2014). These multimedia features support students' inferencing about characters' actions, feelings, and states of mind (Verhallen, Bus, & de Jong, 2006). They also support comprehension and build up the reading experience with the novel opportunities that they provide (Larson, 2012). Another benefit is that the reading motivation of children, especially children with reading difficulties, appears higher when they interact with multimodal texts (Glasgow, 1997).

Students with special needs (ELL, visually impaired, struggling readers) might benefit from the individualized format of interactive digital books (Larson, 2010), because these students need a more specialized instruction (small group, one–on–one
tutoring, etc.). A majority of interactive digital books have a text–to–speech (narration) feature which is a read aloud tool that is provided with digital books as an option to support reading online. This feature is significant for struggling readers who need help with word recognition or who read at a slow pace or with much effort (Dalton, 2014).

Although the impact of early forms of digital books has been studied for over two decades, there are few investigations examining the enhanced features of digital books. In an exploratory study with 24 pairs of adults and children (ages 3–5), researchers at the Joan Ganz Cooney Center (Chiong, Ree, Takeuchi, & Erickson, 2012) explored enhanced e–book use on iPads. They asked participants to read an enhanced digital book and a basic digital book. They collected data through videotapes of the interactions, observation notes, and interviews with parents about their reading experiences. The study revealed that children preferred to read an enhanced digital book over a basic digital book, but they remembered fewer details of the content with enhanced digital books instead of the basic digital book version.

There are even fewer studies examining the experiences of young struggling readers with interactive digital books. In a qualitative study with a struggling reader, McClanahan, Williams, Kennedy, and Tate (2012) explored the experiences of a struggling reader with the story book applications on the iPad. They used a preservice teacher's assessment papers, a plan of action, lesson plans, and notes of each tutoring session as data sources. They implemented the study in an elementary education reading course with a struggling reader. The struggling reader was a fifth grade student, who was identified with Attention Deficit Hyperactivity Disorder (ADHD). The interactive features that were used with the student were read aloud, voice recording, prediction
guide, graphic organizer, and insert strategy that were offered in some of the applications on the iPad. The results of the study showed that the student made a one year's progress in reading within six weeks with the use of interactive applications on the iPad. The findings also suggested that these applications helped the student to focus attention, increased his metacognitive skills in reading, and enabled him to be more confident and to gain a sense of being in control of his learning.

Not all the studies; however, reported positive outcomes with the use of interactive digital books in reading instruction. Some studies found that reading from digital books differed from reading from traditional print books in terms of engagement but not in increasing comprehension. In a qualitative study, Schugar, Smith, and Schugar (2013) observed preservice teachers using digital books on iPad during one–on–one tutoring. The data were collected through observation and written reflections of preservice teachers about using these devices with students during tutoring. The students preservice teachers worked with were middle–grades students in a summer reading clinic. They read four different books; two as interactive picture digital books and two in traditional print form. The results of the study showed that students demonstrated better comprehension, which was measured through retelling and comprehension questions, when they read books in print form. However, higher levels of engagement were both observed and self–reported when they read from digital books.

**Chapter Summary**

In this chapter, I have presented a discussion of the literature on reading instruction for struggling readers in six sections. The first section explained how motivation affects struggling readers. The second section discussed connections between
reading and writing skills. The third section described research on the connections between reading and spelling. The fourth section explained studies on educational technology use in reading instruction for struggling readers. The fifth section addressed the literature relevant to the comparison of traditional print books to digital books. The sixth section analyzed studies on digital books in reading instruction. The final section highlighted studies on the use of interactive digital books with struggling readers.

The reviewed studies indicated conflicting results about the use of technology in reading instruction of struggling readers. While some of the studies found that technology use, specifically the use of digital books, helped struggling readers to improve their reading skills (Esteves & Whitten, 2011; Larson, 2010; Larson, 2012; McClanahan, Williams, Kennedy, & Tate, 2012; Shamir & Shlafer, 2011), other studies found no difference in the reading skills of struggling readers when digital books were used (de Jong & Bus, 2004; Park & Helsel, 2008; Salmerson, Canas, Kintsch, & Fajardo, 2005; Schugar, Smith, & Schugar, 2013). However, a majority of the studies revealed that struggling readers benefit from reading instruction that incorporates the use of digital books. The next chapter will explain the qualitative research methodology that was used in this study.
CHAPTER 4

METHODOLOGY

This chapter includes a detailed description of the research methodology utilized in this study. In this section, I discuss an overview of the problem, the purpose of study, and the research questions that guided this inquiry. Then, I provide a justification for why a qualitative research is the methodology of choice for this study. I also explain why case study was chosen as the research approach. Next comes my role as the researcher in this study. In addition, I highlight the setting of the study, describe the participants in terms of how they were recruited, and go through the procedures that were followed throughout data collection. I further explain my data collection and analysis methods. Finally, I discuss the limitations, validity and reliability, and ethical considerations applicable to this study.

Research Problem

Struggling readers continue to have difficulty in reading a text for many student–related and environment–related reasons. This affects struggling readers personally and academically. Individuals who struggle in reading in the early elementary grades continue to have poor literacy that might result in unemployment, poverty, and even crime (Zimmermann & Hutchins, 2003). Struggling readers also score poorly on state and standardized reading tests that affect their future academic plans. Thus, they need immediate attention to provide support for current and later success in life (Zimmermann & Hutchins, 2003). Effective interventions are required to support their literacy practices. New technologies provide avenues for enhancing literacy instruction, especially of struggling readers (Anderson–Inman & Horney, 2007; Boone & Higgins, 2007; Cheung
& Slavin, 2013). Using a qualitative case study approach, this study aimed to explore the reading experiences of six struggling readers with interactive digital books and how these books support the reading motivation and comprehension within tutoring sessions in an elementary school setting.

**Research Questions**

An integral and important piece of research design is the research questions. They help researchers to focus the study, offer guidance on how to conduct the study, and communicate the purpose of the research (Maxwell, 2005). The proposed study strived to respond to the following research questions:

1) How do struggling readers describe their literacy experiences related to the use of interactive digital books during tutoring sessions?

2) What is the academic potential of using interactive digital books among struggling readers?
   a.) How does using interactive digital books support the reading comprehension of struggling readers?
   b.) How does using interactive digital books support the reading motivation of struggling readers?

Through the proposed research questions, I intended to explore how the inclusion of the use of interactive digital books supports participants’ achievement in the area of reading through tutoring. This investigation also examined how the student participants viewed their experiences using interactive digital books. In this way, it was my investigative aim to find out more about how participants were supported personally and academically regarding reading through the course of the inquiry. The following section
consists of a legitimation for why qualitative research is the methodology of choice for this study in relation to the stated research questions and the research problem that were under investigation.

**Rationale for Qualitative Research**

Qualitative research provides detailed information and gives insight into individuals’ experiences (Grbich, 2013). In addition, the particular focus of qualitative research is on how individuals portray their experiences and construct their worlds and what meaning they ascribe to these experiences (Merriam, 2009). Therefore, a qualitative approach brought more insight to comprehend and interpret what experiences struggling readers brought to the use of interactive digital books, how they made use of it, and how such books supported or weakened their literacy practices and in what ways. In sum, a qualitative approach allowed me to explore these issues in–depth in an attempt to find out constructions of my participants related to the use of interactive digital books.

Qualitative research has become so much a part of my daily life that I started to observe people; what they do; how they do; or why they do certain behaviors. Recently, I have been putting my six–month–old baby across the mirror for him to watch himself, to enjoy it, and to develop his self–confidence. At one of our mirror plays, I realized that qualitative research of people resembles inquirers’ looking at the mirror. We can never see the reality of individuals, but we can only look, watch, observe, and try to understand the reflections (constructions) that they reflect to the mirror (their environment). This does not mean that qualitative researchers cannot search for truth. It, actually, means that qualitative research brings us closest to the truth and/or reality of individuals. Some of the things (actions, words, characteristics, experiences, etc.) are only reflected in the
mirror. Individuals cannot always see their reality, as it becomes a routine that individuals are not even aware of anymore. They might either look at the mirror in order to see it or someone else should highlight it for them to see or realize it. Thus, qualitative research is important to see, observe, and understand the constructions of individuals that sometimes individuals themselves are not even aware of.

In the literature, qualitative research has been described as an interpretive science in search of meaning and an inquiry in search of truth. However, qualitative research is not after a single, ultimate truth, but rather multiple and divergent constructions of individuals involved in the study (Lincoln & Guba, 2003). Lincoln and Guba (2003) further clarified the truth qualitative researchers are looking for by stating:

… social realities are social constructions, selected, built, and embellished by social actors (individuals) from among the situations, stimuli, and events of their experience. As a result, the naturalist is not interested in pursuing some single “truth,” but rather in uncovering the various constructions held by individuals and often shared among the members of socially, culturally, familiarly, or professionally similar groups in some social context. These constructions represent (we would argue, they are) the meanings that human beings attach to events, situations, and persons in their effort to impose order on social interaction. In that sense, constructions are intensely personal and idiosyncratic and, consequently, as plentiful and diverse as the people who hold them. (p. 227)

In this investigation, a qualitative methodology was chosen as it is of high importance to uncover the social constructions of struggling readers from their experience with the use of interactive digital books in the natural context of their school.
A qualitative approach to my inquiry enabled me to explore the meanings that participants attached to the use of interactive digital books. This approach further enlightened constructions about the academic outcomes of using interactive digital books in terms of how participants’ reading motivation and comprehension were supported. Thus, this investigation brought the multiple and diverse constructions of participants to light in an effort to search for their social realities.

Conducting qualitative research concentrates on collecting thick description (Geertz, 2003). This is a portrayal of the deep meaning of actions, events, or statements as embedded within contexts, relationships, and period of time. The use of thick description of the experiences of my student participants with the use of interactive digital books might guide others to understand the needs of struggling readers, each of whom have unique characteristics, different reasons to struggle with reading a text, and various capacities to reflect on what they know and what they can do. There is a need for a complex and detailed understanding of these issues. It is important to discover meanings in which struggling readers understand themselves and their world and to comprehend meanings that they bring to the use of interactive digital books. The next section addresses my specific use of case study within this inquiry.

Research Approach: Case Study

I used case study as the research methodology for this qualitative inquiry. A case study is an empirical inquiry that explores a phenomenon in–depth and within its real–life context (Yin, 2009). Case study includes the study of a phenomenon through one or more cases within a bounded system, such as a setting or a context (Creswell, 2007). Stake (2003) defined case study both as a process of inquiry and as a product of that inquiry.
Case study is a preferred strategy when *how* and *why* questions are more important to seek than *what* questions related to the case under study (Yin, 1989). To explore the experiences of my participants, I inquired into *how* struggling readers described their experiences related to the use of interactive digital books during tutoring sessions; *what* the academic potential of using interactive digital books among struggling readers was; *how* using interactive digital books supported the reading motivation of struggling readers; and *how* using interactive digital books supported the reading ability of struggling readers. The *what* question provided an overall understanding of the issue; whereas the *how* questions brought up a deeper understanding of the phenomenon under study.

Stake (1995) described three kinds of case studies: intrinsic, instrumental, and collective case studies. Stake further discussed them in detail. An intrinsic case study is undertaken if the researcher has a genuine interest in the case and wants a better understanding of it. It is an instrumental case study if the researcher wants to gain insight into an issue or to refine a generalization. Finally, a collective case study is conducted when there is more than one case under study. In Chapter 1, I described my own experiences as a struggling reader, which has directed me to explore the experiences of other struggling readers who might have similar or different reasons to struggle with reading texts at their grade level. Therefore, this study is an intrinsic case study, because I have a deep interest in the experiences of struggling readers as a student who went through similar difficulties in reading during my elementary and high school years.

Yin (1989) classified case studies as explanatory, exploratory, or descriptive. An explanatory case study seeks answers to a question that is too complex for the
experimental strategies. An exploratory case study analyzes situations in which the target intervention has no clear results. Lastly, a descriptive case study describes the real–life context as it occurred. In this study, I made use of an exploratory case study in an attempt to uncover experiences of struggling readers with the use of interactive digital books, because there are few studies on that topic, and the existing research has conflicting results (Esteves & Whitten, 2011; Larson, 2010; Larson, 2012; McClanahan, Williams, Kennedy, & Tate, 2012; Shamir & Shlafer, 2011; de Jong & Bus, 2004; Park & Helsel, 2008; Salmerson, Canas, Kintsch, & Fajardo, 2005; Schugar, Smith, & Schugar, 2013).

Case study researchers look for what is common, but they find out what is uncommon about the case as the end result (Stouffer, 1941). Case study research design is most applicable when the researcher has “clear identifiable cases with boundaries and seeks to provide an in–depth understanding of the cases or a comparison of several cases” (Creswell, 2007, p. 56). A case study approach enables researchers to analyze a case or cases (person, group, community, or event) in–depth within its’ real–life context. This case study inquiry brought out an in–depth understanding of the experiences of my participants with the use of interactive digital books in their real–life context. Although generalization of a case study is not possible, an in–depth analysis of this inquiry offers important insights about this or a similar group of students.

According to Cresswell (2007) and Suter (2012), the case might be an individual, several individuals, a group, a program, an event, or an activity. In terms of design, a case study research project may constitute a single case study or multiple case studies (Yin, 1981a). However, multiple case studies are favored over single case studies, because “single–case designs are vulnerable if only because you will have ‘put all your eggs in
one basket’” (Yin, 2009, p. 61). More importantly, “the analytic benefits from having two (or more) cases may be substantial” (Yin, 2009, p. 61). Each participant in this inquiry constitutes a single case, but, as a whole, this study will be a multiple case study, which is also known as collective case study, comprised of six struggling readers with each participant constituting a single case to safeguard the credibility of the study.

In qualitative studies, an inquirer makes analytical generalizations, which refers to linking results from a particular case to other cases (Schwandt, 2007). The aim of generalization in qualitative research is “to draw large conclusions from small, but very densely textured facts; to support broad assertions about the role of culture in the construction of collective life by engaging them exactly with complex specifics” (Geertz, 2003, pp. 166-167). The purpose of this multiple case study is not to generalize inquiry findings across all struggling readers in the United States, but to learn from inquiry findings and compare results among the cases in this study. This might help draw conclusions from the findings to open up new territory for further research (Geertz, 2003).

**Role of the Researcher**

Researcher roles are important to highlight, as researchers shape and are shaped by the study. The researcher’s role is significant in qualitative research, since the researcher is actually integral to the investigation. Leavy (2014) explained the role of a qualitative researcher in stating that “we are not outside of our projects, but located and shifting within them. Qualitative research is an engaged way of building knowledge about the social world and human experience, and qualitative researchers are enmeshed
in their projects” (p. 1). Inquirers are expected to be enmeshed in their projects in order to understand the constructions of other people involved in their research.

In qualitative research, a researcher is considered to be the instrument of the study (Denzin & Lincoln, 2005). In indicating how the researcher is an instrument of the research, Mead and Bateson (2003) presented the metaphor of a camera. They argued about the differences between placing a camera on a tripod versus holding a camera and moving it around. They noted that cameras that are on a tripod record one percent of the moment; however, cameras that are freestanding can be used to get a sequence of behaviors. Inquirers should be the instrument of their studies as a freestanding camera over which they have full control in order to observe much more than a still camera does. At the same time, moving the camera opens the door for the researcher to impact the study in accordance with his or her perspectives, opinions, and experiences.

Qualitative researchers need to learn how to “be” in the landscape. Phillion (2002) wrote of her experience of being in the landscape “by being an inquirer–immersing myself in daily life, observing, listening, falling into the rhythms, absorbing the patterns” (p. 6). Schlein and Chan (2012) further highlighted how narrative inquirers make meaning while existing in the midst of a study. They considered how qualitative researchers might also influence the shape of a study and research findings based upon a researcher’s experiences and perspectives. Qualitative researchers have also exhibited the importance of learning while immersed in cultures other than their own (Bateson, 1994; Delpit, 1995; Hall, 1994). Immersing ourselves in the daily lives of participants, watching, listening, participating, and asking questions are all important components to
being on the research landscape in order to understand the constructions of our participants. Thus, in qualitative research a researcher’s role is pivotal to the actual study.

In qualitative studies, researchers take on different roles in the research setting. Merton (1972) categorized researcher roles as insiders and outsiders. Merton noted that both perspectives are needed in the process of truth seeking and considered their distinctive and interactive roles rather than referring to a researcher either as an insider or outsider in the process of truth seeking. Building on the work of Merton, Banks (1998) classified researcher roles as: indigenous–insider, indigenous–outsider, external–insider, and external–outsider under the typology of cross–cultural researchers. In this inquiry, I view my role as an external–insider. An external insider is described as someone who is:

… socialized within another culture and acquires its beliefs, values, behaviors, attitudes, and knowledge. However, because of his or her unique experiences, the individual rejects many of the values, beliefs, and knowledge claims within his or her indigenous community and endorses those of the studied community. The external–insider is viewed by the new community as an “adopted” insider.

(Banks, 1998, p. 8)

Depending on the context, researchers are both outsiders and insiders (Merton, 1972). The context relates to the culture researchers study. Age, race, gender, and occupation all form a cultural community. To me, researchers begin a study as an outsider as long as they study a cultural community other than their own. In time, they might enmesh in their participants’ culture by empathizing with them and become a somewhat insider. Or they cannot fully understand their participants’ culture and constructions and stay as an outsider. I describe myself as a White, Turkish woman
studying as a graduate student and working as a mother of two children under the age of five, and as an English teacher at the age of 31. The cultural community I studied was different from my own in terms of age, and in terms of race, gender, and occupation (we are all students considering my graduate student position, but I am a mother and a teacher besides being a student). This is why I described myself as an external–insider. I was from another cultural community (external), but I tried to learn about some of the possible beliefs, values, behaviors, attitudes, and knowledge connected with my participants (insider).

Adler and Adler (1987) categorized three different roles of qualitative researchers: (1) peripheral member researchers who do not participate in the activities (outsider); (2) active member researchers who participate in the central activities (insider); and (3) complete member researchers who are members of the group or become affiliated with the group during the study (insider). They show differences in the amount of involvement. In this study, I was a complete participant researcher, who participated in the central activities in the study as a volunteer tutor for the six struggling readers involved in this study.

I have been a volunteer tutor to provide literacy support for struggling students for one year in several different programs and schools. One of my experiences was in an elementary school with a 3rd grade struggling reader for one school semester. I have also been a volunteer literacy tutor for some adult struggling readers in the Literacy Kansas City project for one academic term. During my experience with these students, I have sometimes incorporated interactive digital books and came up with very positive outcomes from students, which intrigued and guided me to work on my dissertation.
Thus, in this study, I intended to volunteer as a tutor within an elementary school to conduct my study and to work with some of the struggling readers. The following section consists of an outline for the design of this study.

**Study Design**

The design of a study highlights the different levels of an inquiry between data collection and analysis. In this section, I discuss the design of this inquiry. I begin with a description of the research setting and the sampling techniques that I employed to recruit participants. Then I outline the procedures that I followed for the collection of data.

**Context**

All research is contextually–situated, so it is significant to describe the context of this study. The elementary school chosen as the site of this inquiry is located in the Midwest region of the United States. This is a charter school, which was opened in 2013. In 2013, the school’s enrollment was 83, of which 9.6% were White, 83.1% were African American, and a small percent of students were Latino/a. The actual number of Latino/a students was not indicated because the percent has been suppressed due to a potential small sample size. In 2014, the school’s enrollment was 101, of which 92.1% were African American and a small percent of White and Latino/a, which were not indicated because the percent was suppressed due to a potential small sample size. In 2015, the school’s enrollment was 88, of which 85.2% were African American and a small percent of White, which was not indicated because the percent was suppressed due to a potential small sample size. The enrollment statistics show that the number of African American students has not changed much, while the number of White and Latino/a students has changed slightly. Of the 88 students enrolled in 2015, 93.2% of the students were
considered economically disadvantaged, as they were considered eligible for free or reduced-price lunch (Missouri Department of Elementary and Secondary Education, 2014). The school accommodates a library, a combined lunch room and gymnasium, and a computer lab.

Students in this school must take an annual set of mandatory standardized state tests, which is called the Missouri Assessment Program (MAP). Students are tested in the content areas of English language arts and mathematics in MAP assessments. According to 2015 MAP results in mathematics, 60.0% of the third graders in this school are at the “Below Basic” level, while 33.3% of them are at the Basic level, 6.7% of them are at the Proficient level, and none of them are at the Advanced level. The students performed slightly better in the content area of English language arts, with 53.3% of the third graders are at the “Below Basic” level, while 20.0% of them are at the Basic level, 13.3% of them are at the Proficient level, and 13.3% of them are at the Advanced level (Missouri Department of Elementary and Secondary Education, 2014).

The students who get Below Basic and Basic level scores in the content areas of English language arts are targeted as needing reading assistance. These readers are paired with volunteer tutors for one–on–one work in designated places throughout the school during the regular school day by the principal and/or classroom teachers, because their classroom teachers do not have enough time to work one–on–one with these students. In such cases, volunteer tutors are required to support the literacy practices of struggling students.

The school aims to inspire students’ minds by nurturing the imagination. Therefore, it strives to engage the whole child to succeed in academic excellence through
the arts. Students create and express meaning by using visual arts, music, dance, and dramatization, which are used as a resource for teaching in all core subject areas.

Through arts integration, students are expected to make greater meaning of the world around them. Students’ progress is assessed based on their mastery of critical skills, rather than grades on the A, B, C, D, F scale. The components of literacy (reading, language, and writing) are taught based on a balanced approach to literacy.

Participants

The participants involved in this inquiry were six struggling readers in the elementary school described above. I used purposeful sampling to select the participants for this qualitative case study. The purposeful sampling strategy allows researchers to select information–rich cases strategically and purposefully to yield insight and in-depth understanding of the phenomenon under study (Patton, 2002). There are different purposeful sampling strategies to select information–rich cases. I used snowball sampling followed by criterion sampling and maximum variation sampling as purposeful sampling strategies to select the participants to increase the reliability of the selection process. 

Snowball sampling aims at identifying “cases of interest from people who know people who know what cases are information–rich” (Creswell, 2007, p. 71). I selected the school and the participants with the help of a "gatekeeper"– one of my professors, who knows the principal of the school. A "gatekeeper" is an individual who is either a member of or has insider status with a group (Creswell, 2007). One of my professors has insider status in this school as a board member. She helped me contact the elementary school principal, who showed interest in my study and indicated a potential pool of participants for this
study. Then I used criterion sampling to select the participants that meet the criteria of this study.

Criterion sampling includes “all cases that meet some criteria; useful for quality assurance” (Creswell, 2007, p. 25). Ethnicity and gender were used as criteria for criterion sampling and maximum variation sampling strategies. Ethnicity was the primary criterion in this study. I planned to select 2 African American student participants, 2 White student participants, and 2 Latino/a student participants. However, 5 African American students and 1 White student was in need of reading assistance.

Maximum variation strategy:

aims at capturing and describing the central themes that cut across a great deal of variation. For small samples a great deal of heterogeneity can be a problem because individual cases are so different from each other. The maximum variation sampling strategy turns that apparent weakness into a strength by applying the following logic: Any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared dimensions of a setting or phenomenon. (Patton, 2002, pp. 234-235)

I further aimed to recruit one male and one female participant from each ethnicity for maximum variation, but that varied depending on the potential pool of participants. There were only 1 African American male student and 5 female students from different ethnicity groups as the potential pool of participants.

According to Chall’s stages of reading development (1983), reading is viewed not as a process from beginning to mature, but as a process that modifies as the reader becomes more proficient. The results of reading tests by the National Assessment of
Educational Progress (NAEP) have shown that children from more high–income families score significantly higher than the children from low–income families at all ages tested (9, 13, and 17), and the gap even becomes greater with increasing age (Chall & Jacobs, 2003). This data indicated that family income might play a significant role in this study, especially between students from low–income and high–income backgrounds.

**Interactive Digital Book Selection**

During tutoring sessions, I used level–appropriate interactive digital book applications on an iPad, drawing from available downloads from the iPad, App Store. I used my own iPad and purchased the book applications myself. I downloaded 18 level–appropriate interactive digital book applications (Appendix H) on my iPad. Level–appropriateness of the books were assessed using the Powers Sumner Kearl Readability Formula, which is suitable for text geared towards primary age children (age 7–10). Its calculation is based on sentence length and number of syllables. I used the free Powers Sumner Kearl Readability calculator in the readabilityformulas.com website to check for the levels of the interactive digital books.

My participants’ expected grade level was third grade. However, these students are called struggling readers because they cannot read at their expected grade level. Therefore, I chose 6 books at the second grade level based on the results of the Powers Sumner Kearl Readability Formula. Using books one level below struggling readers’ expected grade level gave my participants some confidence in their reading. Based on the readability formula, I also chose 12 books at the third grade level, which was my participants’ expected grade level.
The 18 level-appropriate interactive digital book applications (Appendix H) were also chosen so that they met the following criteria of book selection and of genre variety. The selection of the interactive digital books consisted of some of the criteria suggested by DeVries Guth and Pettengill (2005) in their book, *Leading a successful reading program: Administrators and reading specialists working together to make it happen*. The criteria for selection of supplementary reading materials that were included for the purpose of this study were: (a) contribution the reading material makes to the curriculum; (b) contribution the reading material makes to the interests of the students; (c) favorable reviews found in standard selection sources; (d) quality of writing; (e) accuracy and validity; (f) readability; and (g) contribution of the material to increasing the breadth and depth of material available on races, cultures, and religions found in the community (DeVries Guth & Pettengill, 2005, p. 47). The final selection criteria allowed me to teach a culturally responsive literacy curriculum and appeal to the foundations of the critical sociocultural theory framing this study.

Interactive digital books were also chosen considering the importance of text variability that students should be exposed to. Thus, there were a variety of fiction and nonfiction interactive digital books that were specifically chosen for the purpose of this study. The specific types of genres included in this study were science fiction, action, adventure, fantasy, mystery, history, folktale, and poetry.

I showed my participants the list of the books (Appendix H) with grade levels removed to make sure not to influence their motivation to read. The first six books were at the second grade level. The final 12 books were at the third grade level. I asked my participants to choose three of the first six books and six of the following 12 books. This
helped me to identify the nine books that I worked with each participant over the sixteen tutoring sessions. This increased their motivation, because choice is very important to increase students’ motivation to read (Fountas & Pinnell, 2006).

**Procedure**

I conducted research with my participants over a two–month period in the places designated by the principal. I worked one–on–one with each student participant for twice a week, half an hour sessions for a total of two months. This equals 16 individual half an hour sessions with six students. In sum, I worked for 48 hours with all participants. During data collection, my participants verbally completed surveys on reading interest. They further participated in two semi–structured interviews. I observed my participants during tutoring activities and kept field notes of my observation.

In particular, during the first one–on–one session, I met with each student and conducted a Reading Interest Inventory (Appendix F) I developed to find out participants’ interests in reading. On the same day, I got their spelling inventory results from their literacy teachers to find out participants’ spelling levels, since they were important for a thorough understanding of participants’ literacy development. Based on what participants missed in the spelling inventory, I designed mini lessons on spelling to be used during tutoring sessions.

In the second meeting, I conducted the first semi–structured interview (Appendix D). This interview was approximately 20 minutes in length and took place in a private place that was designated by the principal. In the same session, I showed my participants a short interactive digital book, discussed its features, and asked my participants to read it. The third session was when I started the actual tutoring sessions, each of which lasted
approximately half an hour; 5 minutes for mini lessons, 20 minutes to read interactive
digital books and 5 minutes for students to show further understanding with some
drawing and/or writing about the text.

In total, one hour each week for a total of 8 weeks focused on tutoring for each
participant. I spent a total of 16 hours with each participant. The 16th session was the final
session. During that session, I conducted a second semi–structured interview (Appendix
E), which lasted approximately 20 minutes. I also got their final spelling inventory results
from their literacy teachers to compare the results to the initial spelling inventory
conducted by their teachers.

In an effort to accurately capture data, I audio–recorded tutoring sessions with my
participants while using the interactive digital books. The audio–recordings of tutoring
sessions were not transcribed, but kept as a backup in case I need to go back and analyze
anything I might miss as a researcher while interacting with the participants as a tutor.
After each tutoring session, I wrote technical and reflective field notes on Evernote,
which is an application to take notes and photos, create to–do lists, and even add voice
notes on iPad. The field notes included my descriptions of what happened in the field and
reflections of my feelings, ideas, concerns, prejudices, and impressions. Further, I
compiled student portfolios for each student to see student improvement in their literacy
experiences. The student portfolios included lesson plans for each tutoring session;
interest and spelling inventories that were collected in the first and last meeting; running
records (Appendix I) that I kept to observe reading improvement at the first and last
tutoring sessions; records of reading behavior (Appendix J) that I kept to observe reading
behaviors systematically throughout the tutoring sessions; and any other student work of
drawing and/or writing produced at each tutoring session. To explain the methods to be used for data collection, I further discuss each data collection method and steps to analyze the data in detail.

**Data Collection**

What qualitative researchers call data are actually “our own constructions of other people’s constructions of what they and their compatriots are up to” (Geertz, 2003, p. 149). Researchers use various methods to collect data in order to draw some conclusions about their studies. Data collection is the heart of research design, and within this section, I reflect on the manner of implementation of my proposed research plan. I address the data collection methods to be implemented for this investigation below.

Qualitative researchers primarily collect data using three methods: (1) in–depth, open–ended interviews; (2) direct observation; and (3) written documents (Patton, 2002). However, in addition to these methods, there are many other types of data collection sources, such as the use of artifacts, cultural records, visual materials, personal experience, audio recording, video recording, and focus groups (Denzin & Lincoln, 2003). During the data collection process, triangulation is a crucial process to increase accuracy and credibility of findings (Patton, 2002) and to use multiple viewpoints to clarify meaning, which allows researchers to verify the repeatability of an interpretation or observation (Stake, 2003). For the purpose of this study, I collected data through interviews with participants, document collection, use of a technical and reflective field note journal, and the audio recording of tutoring sessions to triangulate my data in order to increase the reliability, accuracy, and trustworthiness of the study. In this section, I examine the various data collection sources that I used in this study.
Interview

In qualitative research, an important method of data collection is the use of interviews. Interviewing is a way of gaining a description of actions and events that happened in the past or for situations to which a researcher cannot gain observational access. It can also provide information that might be missed in observation (Maxwell, 2013). Interviews are one of the most widespread and powerful ways of comprehending humans (Fontana & Frey, 2008). Interviews allow researchers to discover what is in and on participants’ minds and to learn their perspectives and stories (Patton, 2002). Weiss (1994) stated that interviews allow us to “learn about places we have not been and could not go and about settings in which we have not lived” (p. 1). Interviews with my participants enabled me to have a deeper understanding of their experiences, which might be missed in documents and observation, with the use of interactive digital books.

Fontana and Frey (2008) described three kinds of interviews: (1) structured interviews; (2) semi–structured interviews; and (3) unstructured interviews. In this study, I made use of semi–structured interviews in combination with an interview guide. In semi–structured interviews, an interviewer prepares a set of questions to ask respondents, but the interviewer is free to build a conversation focusing on the questions (DiCicco–Bloom & Crabtree, 2006; Fontana & Frey, 2008). A semi–structured interview allowed me to ask a set of similar questions to all participants as well as having the flexibility to ask additional questions depending on the flow of the conversation. This brought up new understandings to the experiences of struggling readers with the use of interactive digital books.
In particular, I conducted two semi-structured interviews for each participant. Each interview lasted approximately 30 minutes; however, the duration of the interviews depended on how much interviewees wanted to share. I conducted the interviews in a private place in the school designated by the principal for others not to hear us for discretion purposes and without interruption. I conducted the first interview (Appendix D) at the beginning of the study to find out participants’ experiences with and perceptions about interactive digital books. I conducted the second interview (Appendix E) at the end of the study (the final session) to find out my participants’ perceptions towards the tutoring sessions, the use of interactive digital books to read, and their preferences to read from print or digital books. I used a separate interview guide (Appendices D & E) for each interviewee. Interview guides enabled interviewers to pursue the same basic line of inquiry with each respondent (Patton, 2002).

During the interviews, the interview guide served as a structure for the particular areas discussed. However, the interviews might also develop into a conversation and additional questions might be posed to the participants throughout the interviews as related to the interviewees’ responses to the structured questions (deMarrais, 2004). The interview questions were utilized as a means to answering the study’s research questions and assisted me in collecting pertinent data (Maxwell, 2013). The overall purpose of the interviews were to have an understanding about my participants’ experiences with interactive digital books, their perceptions towards using these books to read any text, towards the effectiveness of tutoring sessions, towards the use of interactive digital books to read, and their preferences to read from print or digital books.
Farber (2006) highlighted the importance of tape recording interviews to go back and analyze the data without the need to rely on memory alone. I recorded the interviews using an audio recorder, which served to capture the respondents’ information accurately. This also allowed me to communicate with the participants in a conversational style, as well as to transcribe the interview data without having to write down every word. However, I took notes in case the audio recorder fails. I also took field notes on the designated places on the interview guide during the interviews so that I could capture my comments, reflections, and key points related to the participants’ behavior. I notified the participants that they were being recorded.

Patton (2002) proposed that the meaningful use of technology, for the purpose of data collection, might increase the quality of field observations and prevent intrusion. Audio-recorders are a significant source of data collection, especially in qualitative research, in which the researcher aims to capture every moment of people or ongoing events. They replace the researchers’ handwritten notes, through the use of which we cannot constitute every detail and might even fail to notice or remember sufficient detail (Rapley, 2007).

I transcribed the audio recordings of interviews personally. Transcription is a selective process (Davidson, 2009), and I choose to do a naturalized transcription to capture detailed data that might be relevant to the intent of the proposed study. From the perspective of conversation analysis (CA), I produced naturalized transcriptions, in which I provided as much detail as possible related to talk and nonverbal actions including the idiosyncratic elements of language, such as stutters and pauses. Besides using interviews
to obtain a deeper understanding of the phenomenon from the perspective of the participants, I also observed participants to gain insight into their lives.

**Participant Observation**

Gold (1958) classified four roles for qualitative researchers conducting field work: (1) complete observer; (2) observer as participant; (3) participant as observer; and (4) complete participant. A complete observer makes observations of a setting without interfering with its day-to-day operations, and the identity of researcher is kept hidden. The observer as participant reveals his or her identity, but the interaction of the researcher is still limited. On the other hand, the participant as observer fully participates in the activities in the setting, and the researcher’s identity is known by those who are observed. Finally, the researcher might take on a complete participant role and fully participate in the activities in the setting and conduct observations covertly (Hesse–Biber & Leavy, 2011). In this inquiry, I was a complete participant as the volunteer tutor, who participated in the activities of the people being studied.

Participant observation is one type of data collection method in which an observer gathers data by participating in the daily activities, rituals, interactions, and events of the people or organization being studied to understand their culture (Dewalt, Dewalt, & Wayland, 1998). Participant observation is different from pure observation, which requires detachment, and from pure participation, which implies more of an emotional involvement (Bernard, 1995; Paul, 1953). The focus of the participant observation is on the meanings of participants’ experiences as seen from the standpoint of insiders (Spradley, 1980). As the volunteer tutor of my participants, I guided their reading practices. Therefore, I participated in the activities to help them improve their reading
proficiency. Thus, participant observation served as an indispensable method of data collection within this inquiry to capture the meanings of the participants’ literacy experiences with the use of interactive digital books.

For the purpose of this study, it was not possible to take notes while engaging with my participants as their tutor. Thus, I used audio-recorders to capture every moment of my participant observation in case I need to analyze some parts of our sessions. However, it is not possible to capture sights, smells, impressions, and extra remarks with the use of an audio recorder (Bogdan & Biklen, 2003). Therefore, after returning from each tutoring session, I also took field notes on Evernote using an observational protocol (Appendix G) I designed modifying the guidelines suggested by Schwandt (2015) appropriate to the intent of this study. The observational protocol included descriptive notes (portraits of the participants, a description of setting, and an explanation of particular activities or events), reflective notes (my personal thoughts; feelings, ideas, concerns, problems, impressions), and some demographic information (time, place, and date). I copied and pasted the observational protocol on Evernote for each observation and took field notes in the appropriate places so as not to miss any important information.

**Document Collection**

Qualitative researchers might supplement observation and interviewing with the collection and analysis of documents (Yin, 2011). Documents are a good source of data collection to provide rich and thick information about participants (Creswell, 2007). The purpose of collecting documents is to obtain specific details and to make interpretations in order to verify information from other data collection sources (Yin, 2009). Documents may consist of excerpts; quotations; passages from organizational records; memoranda
and correspondence; official publications and reports; personal diaries; letters; artistic works; photographs; and written responses to open ended surveys (Patton, 2002).

Some of the documents in this study included lesson plans for each tutoring session. Each tutoring session comprised a mini lesson, a practice stage, and a production stage. The focus of the mini lessons, which took about 5 minutes, was on the orthographic features participants missed in the spelling inventory. The practice stage, which took about 20 minutes, was based on reading an interactive digital book; asking ongoing questions to check for comprehension of the text; and asking participants to make predictions about the text. Finally, participants were expected to show further understanding of the digital texts with some drawing and/or writing in the production stage, which lasted about 5 minutes for each individual.

The rest of the documents was collected in a student portfolio for each participant to see their improvement in their literacy practices. Each student portfolio consisted of their Reading Interest Inventory (Appendix F) to be collected in the first meeting and spelling inventory results acquired by their teachers at the beginning and end of the semester, and any other student work (drawing and/or writing) produced at each tutoring session. Through the use of the reading interest inventory, I found out the study environments of participants, how they learned to read, and how they liked to read to design my tutoring lessons. Through the use of the spelling inventory, I identified the spelling levels of participants and what orthographic features my participants mastered and what features they needed help with. In addition, the portfolio included running records (Appendix J) analyzed for the first and last reading of participants during tutoring sessions. There were also records of reading behavior (Appendix K) that were kept for
each tutoring session systematically. Both running records and records of reading behavior were administered to find out the improvement in the reading levels of participants.

I took field notes on the works of participants (drawing and/or writing) after they turned it in to me when I felt the need to add some comments regarding their work. After I compiled all the documents, I also took field notes including my overall reflections on the participants’ progress based on documents in their student portfolios.

**Field Notes**

Field notes are “the written account of what the researcher hears, sees, experiences, and thinks in the course of collecting and reflecting on the data in a qualitative study” (Bogdan & Biklen, 2003, pp. 110–111). There are two types of field notes: descriptive and reflective. Descriptive field notes are the researcher’s best effort to record the details of what has happened in the field most objectively, while reflective field notes are more subjective notes that reflect feelings, ideas, concerns, prejudices, and impressions of the researcher (Bogdan & Biklen, 2003). In this study, I made use of a combination of descriptive and reflective field notes. I used technical and reflective field notes that I took right after each tutoring session (9 field note entries for each participant), after each interview (two field note entries for each participant), and after collecting the documents (some notes on the participants’ works if necessary), and one main field note entry for all the documents of each participant. I noted my reactions on Evernote, which made it easy to access notes. I sent all my notes to my email right after finishing each field note entry and deleted the notes on Evernote.
I took field notes after the tutoring sessions, because I was a complete participant observer, and I did not want my notes to interfere with what I did with the participants. In the field notes, I described people, objects, places, events, activities, and conversations as well as expressed my feelings, ideas, concerns, prejudices, and reflections (Bogdan & Biklen, 2003). The observational protocol (Appendix H) served as a guide not to miss any important information. I copied and pasted an observational protocol to Evernote for each participant and filled it in after each session. There was not any guide for taking field notes for the documents, because it included my overall reflections about participants’ progress.

In sum, interviews with participants, document collection, and participant observation were the three main data collection methods that were used in this inquiry, along with the composition of field notes. Triangulation of the data methods allowed me to see multiple viewpoints to clarify meaning. In the following section, I illustrate the data analysis techniques and strategies that I employed in this study.

**Data Analysis**

The data analysis process involves preparing the data for analysis, conducting different analyses, going deeper to make sense of the data, and interpreting the larger meaning of data. Qualitative researchers use different types of analysis strategies appropriate to the traditions that they use. Thematic analysis is the most common method of analyzing data to identify, analyze, and report patterns and themes in qualitative data (Braun & Clarke, 2006). In this qualitative case study, I used thematic analysis to analyze and interpret the data to identify core meanings. These core meanings are called patterns
The term pattern refers to a descriptive finding, while the term theme is a more categorical form (Patton, 2002).

Although there are different analysis strategies depending on the type of design, qualitative researchers usually use a generic process of data analysis (Creswell, 2003). To analyze the data, I used a generic process along with a thematic analysis. The generic steps involved organizing and preparing the data; reading through all the data; beginning detailed analysis with a coding process; using the coding process to develop a description of the people as well as themes for analysis; explaining how the themes will be represented; and interpreting the data (Creswell, 2003).

The first steps in the process of data analysis for this study involved the accumulation of raw data. The raw data consisted of transcriptions of the audio recordings of interviews, documents that were collected for each participant, and field note entries. Once I accumulated all the raw data, I read through the data to have a general sense of the information. Then, I began detailed analysis with a coding process. Grbich (2013) illustrated that the coding process is “grouping and labeling of data in the process of making it more manageable both for display and to provide answers to the research question/s” (p. 259). Miles and Huberman (1994) identified three categories of codes: descriptive, interpretive, and pattern codes. Using descriptive and interpretive codes, I was able to analyze the data in chunks so that patterns or themes could be determined. I developed pattern codes and looked across pattern codes for each individual to determine distinct and common themes. I searched for recurring themes and patterns in the data manually, especially looking for themes and patterns that might be
aligned with my research questions. This process helped me to make connections between the themes among the four data sources.

Initially, I did open coding by reading through the data and sorting the data into descriptive codes. Then I defined each descriptive code according to its meaning in this study. Next, I grouped the descriptive codes under the interpretive codes. Finally, I grouped the interpretive codes into themes. I applied the analysis approaches iteratively so that some steps connect back to each other. As the next step of this generic process, I used a narrative passage approach “might be a discussion that mentions a chronology of events, the detailed discussion of several themes (complete with sub–themes, specific illustrations, multiple perspectives from individuals, and quotations), or a discussion with interconnecting themes” (Creswell, 2003, p. 194). In this inquiry, I provided a detailed discussion of interconnecting themes in an effort to discuss the themes as a whole. Along with a narrative passage approach, I conveyed the descriptive information about each case in a table. As the final step of data analysis, I made an interpretation of the data deriving meaning from my own experiences.

Case Study Analysis

There are no specific steps in case study analysis, but there are two types of case study analysis: within–case analysis and cross–case analysis. Within–case analysis “is the in–depth exploration of a single case as a stand–alone entity” to be thoroughly engaged in the data within a single case (Mills, Durepos, & Wiebe, 2010, p. 970). Cross–case analysis is the examination of themes in terms of similarities and differences across cases (Mills, Durepos, & Wiebe, 2010). For this study, I did within–case analysis to identify
rerecuring patterns and themes for each case. The collection and analysis of data connects to ethical considerations and issues related to the study’s potential limitations, and validity and reliability of the study, which are addressed in the next section.

**Ethical Considerations, Validity and Reliability, and Inquiry Limitations**

The issues of ethics, research rigor, and limitations are the three important issues to address in qualitative studies, because qualitative researchers interact with the participants in involved ways. The procedure of entry into the field and gaining the participants’ approval are important. In regards to the research rigor, researchers are liable to illustrate how they take action to secure the validity and reliability of their research. Researchers also need to include the possible limitations that influence the application of the results.

**Ethical Considerations**

It is significant for researchers to anticipate ethical issues, which might arise in writing research questions, collecting and analyzing data, and disseminating findings (Creswell, 2007). Major ethical issues concern preventing harm to the people or settings involved in a study, avoiding the exploitation of research participants, disclosure of the nature of study, dissemination of findings, the voluntary nature of participation, confidentiality (Leavy, 2014). Another aspect of developed research ethics that researchers should consider before conducting a study is data security. This important issue is discussed under confidentiality and privacy issue of developed ethical issues.

Recently, new issues related to the ethical criteria have been struggling (Lincoln, 1995). These issues highlight the importance of voice, community, reciprocity, thrust, and the building of collaborative and nonoppresive relationships (Lincoln & Denzin,
2003). The struggling standards show that participants’ voice and the two–way relationship between the researcher and participant are crucial ethical issues to consider before conducting a study. The following paragraphs illustrate the developed and struggling ethical issues I address in this study.

**Developed Ethical Issues.** To address the developed ethical issues, I initially complied with all of the research requirements detailed by the University of Missouri–Kansas City Social Science Institutional Review Board (SSIRB) and by the review board of the school district in which I collected data throughout the study. To comply with the UMKC SSIRB requirements, I completed CITI training and an IRB exempt approval form.

To secure approval from the school board, I discussed this study with the school principal. This is a private elementary school, and the permission of the school principal was adequate to conduct the study in this private school. Thus, I provided a permission letter (Appendix C) to the school principal.

Research requirements detailed by the University of Missouri–Kansas City Social Science Institutional Review Board are simply related to the protection of privacy and confidentiality, fully informed consent for participating in an inquiry, no harm to the respondents, and no deception of the participants. These issues are important to monitor in conducting research. With these in mind, I will address these issues respectively in the following paragraphs.

**Confidentiality and Privacy.** I safeguarded the data and used pseudonyms for the participants as well as other names of people (students/parents/teachers) or places (schools/districts) mentioned in any data sources. To increase the level of confidentiality and privacy, I used study codes on data documents. Study codes are assigned study IDs
for each participant. I allowed only the primary investigator access to the data with study codes. For further protection of data and confidentiality, I securely stored the data documents in my computer with a security code in a locked office. I will keep all the raw data for five years in case I need to return to the data and then delete them.

In terms of storing and organizing data for security, I compiled the transcriptions in Word documents, each of which was saved and organized according to the pseudonym of the participants, followed by the date of data collection (i.e. Toprak, 10–30–2015) in my computer. Not to confuse interview transcriptions with the transcriptions of audio recordings of the tutoring sessions, interview transcriptions were saved in the order of the number of interview, followed by the capital letter of interview to indicate where the data came from and pseudonym of the participants (i.e. 1I–Derin) in my computer.

**Fully Informed Consent.** The participants in this study were six struggling young readers, so I followed the ethical guidelines set by the National Institutes of Health (NIH) regarding children participants. Obtaining authentic informed consent from children or vulnerable participants is a common concern (Carlsson, Paterson, Scott–Findlay, Ehnfors, & Ehrenberg, 2007). Research regarding children has traditionally been explored through their adult caretakers, because there is a lack of clarity in how to involve children in research (Christensen & James, 2008). I obtained informed consent form (Appendix A) from the legal guardians of the children volunteered in this study. Then I took assent form (Appendix B) from the children involved in the study.

**No Harm: Assessment of Risks and Potential Benefits.** This research was considered to be minimal risk to the participants involved in this study. That means that the risks of taking part in this research study are not expected to be more than the risks in daily life.
However, there is always a breach of confidentiality in any study. There were no other known risks to the students when they chose to take part in or withdraw from the study. However, there were some benefits to the student participants when they chose to volunteer for this study. The International Reading Association's (IRA) position statement on literacy and technology (2009) explained that learners must be proficient and efficient in the new literacies of 21st century technologies to become fully literate in today's world. Besides, students who develop their literacy skills according to typical timelines are more likely to utilize reading resources when technology is integrated into reading practices (Wright, Fugett, & Caputa, 2013). Therefore, it was of benefit to participants in terms of handling reading resources while at the same time getting ready as 21st century literates with the integration of interactive digital books.

Furthermore, there were additional benefits to participants because interactive digital books were integrated into this inquiry. Studies show that students with special needs (ELL, visually impaired, struggling readers) may benefit from the additional text features of electronic books, especially from their individualized formats (Larson, 2010). Digital readers enable the reader to physically interact with and manipulate the text, making the reading experience interactive and engaging (Larson, 2010). Reading motivation increases as children, especially those with reading difficulties, interact with multimodal texts (Glasgow, 1997). In a study on children's involvement with, and response to, digital readers, Larson (2010) found that using digital reading devices with second–grade students promoted new literacy practices and boosted connections between reader and text when electronic tools and features focused on the engagement and
manipulation of text. This study enabled my participants to increase their motivation, as well as their connection with text by promoting new practices.

*No Deception.* Flory and Emanuel (2004) suggested discussing information verbally with research participants as the most effective strategy to make participants understand the consent form. In my study, I reviewed the assent form (Appendix B) with the participants. I informed them about the nature of the study and that the participation was voluntary, so there were not any deception. I also informed them that the participants could withdraw from the study at any time.

**Emerging Ethical Issues.** To address the emerging ethical issues, I will discuss the issues of power, negotiation, and cooperation. To begin with the issue of power, it is clear that there is a power disparity between the participants and researcher. Participants are powerless compared to the researchers who usually have the warrant of a university, government, or foundation sponsor (Lincoln & Guba, 2003). In order to minimize the effects of this power disparity, inquirers should build a good relationship with participants based on mutual respect, dignity, and trust. In order to build this relationship with my participants, I did a collaborative or joint inquiry (Reason & Rowan, 1981), in which I negotiated the data with my participants to provide an equal voice in collecting and interpreting the data. In an effort to negotiate the data, I used member–checking. Member–checking refers to getting informant feedback by asking participants to check the data to see if data is accurate. I summarized the key points of my interpretations of participants’ constructions and discussed them verbally with the participants so as to produce accuracy in my interpretations. Verbal description of the key points in my interpretations was important, since the participants were already struggling with reading
a text at their expected grade level, and they did not need to be challenged with any other text above their grade level. I also explained the purpose of the research and risks that participants might take with full disclosure in order to build trust relationships. Thus, cooperation and negotiation were maintained to manage research authenticity and to safeguard human dignity throughout the study. However, building a trust relationship required time. Therefore, I think two months to work with my participants allowed me the time to build this relationship.

**Validity and Reliability versus Trustworthiness**

Validity and reliability are the two keystones to assess the quality of research. However, validity and reliability in qualitative research are different from the validity and reliability in quantitative research (Creswell, 2007), and so are the techniques used to eliminate threats in a study. Reliability has a minor role, while validity is considered as strength of qualitative inquiry (Creswell, 2003). In the naturalistic inquiry I adopted in this study, inquirers demonstrate trustworthiness rather than reliability and dependability as in the conventional paradigm. To establish trustworthiness, inquirers show credibility (referring to validity in conventional paradigm), transferability (referring to generalizability in conventional paradigm), dependability (referring to reliability in conventional paradigm), and confirmability (referring to objectivity in conventional paradigm) (Lincoln & Guba, 1985).

**Credibility.** In qualitative research, credibility is used as a substitute for validity. Creswell (2007) viewed credibility in qualitative research as an attempt to assess the accuracy of the findings. Creswell further suggested some strategies to check the accuracy of findings: triangulation of data sources; using member–checking; using rich
and thick descriptions, clarifying researcher bias; presenting negative or discrepant information; spending prolonged time in the field; using peer debriefing, and using an external auditor. In an effort to establish credibility, I used the majority of the strategies suggested by Creswell within this inquiry.

First, triangulation of data sources refers to the use of multiple data sources. I collected data through conducting semi–structured interviews, participant observation, and document collection in this study. Second, I used member–checking by asking the participants verbally if my interpretations were accurate. Having the participants approval also helps to establish authenticity of the data (Lincoln & Guba, 1985). Third, thick description refers to portrayal of the deep meaning behind words/actions/context in an effort to make its’ intent clear to its readers/audiences (Geertz, 2003). I tried to give detailed descriptions and portrayed deep meaning to transport readers to the setting. Fourth, I explained my biases in detail in the inquiry limitations section below. Fifth, I discussed within my dissertation any contrary information among the data sources to present negative or discrepant information. Fifth, I spent two months in the field collecting the data to spend prolonged time to capture the essence of the participants’ constructions in detail. Last, I used peer debriefing to enhance the accuracy of findings. Peer debriefing refers to finding a disinterested peer to review the study and ask questions about it (Lincoln & Guba, 1985). I asked a university instructor, Erdem Demiroz, who is my husband, to review the data with any identifier information removed to explore if the methodology, interpretation, and analysis of data resonated with him. He took an iPhD degree in Curriculum Studies and Teacher Education and Mathematics Education. Through the use of peer debriefing, I planned to uncover my possible biases and
assumptions. Besides the aforementioned techniques, the use of maximum variation sampling strategy to recruit participants and verbatim statements of participants to represent the findings also helped establish credibility of this inquiry.

**Dependability.** Rather than reliability, qualitative researchers strive for "dependability" or consistency" (Guba & Lincoln, 1981). Creswell (2007) noted that dependability refers to the fact that “the results will be subject to change and instability” (p. 204). Miles and Huberman (1994) held the position that dependability of a study is based on “whether the process of the study is consistent, reasonably stable over time and across researchers and methods” (p. 278). Reliability is typically demonstrated through replication in the conventional paradigm. However, naturalistic inquiry supports the idea that everything is changing, so replication would not make sense with the change of units to be studied. The main question for qualitative researchers is not whether the procedure can be repeated, but whether the results are consistent with the data collected (Guba & Lincoln, 1981). The consistency of data in this study was established through the use of triangulation of data sources and peer debriefing. Although both strategies are discussed above, I would like to expand on the phenomenon of triangulation to account for my reasoning for intending to use it. The qualitative researcher compiles bits and pieces of evidence that breeds credibility and dependability by looking for recurring behaviors and actions (Eisner, 1991). The three data sources (interviews, observation, and documents) helped me to compare the constructions of my participants to look for evidence and to find out connections and parallels across the data sources and at different times of the day to ensure consistency and stability of actions and behaviors of people involved in the study.
This process also allowed me to identify any recurring behavior or action as well as any disconfirming evidence and contrary interpretations.

**Transferability.** Transferability refers to generalizability in the conventional paradigm. However, qualitative researchers cannot make generalizations of inquiry findings as quantitative researchers do. Qualitative researchers make analytical generalizations, which refers to linking results from a particular case to other cases (Schwandt, 2007). Qualitative research can also “enable someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a plausibility” (Lincoln & Guba, 1985, p. 316) by providing thick descriptions. Thus, the use of thick descriptions helped me establish the transferability of this study.

**Confirmability.** Confirmability refers to objectivity in the conventional paradigm. Objectivity is an aim of research to construct public knowledge; however, object and subject interact in the knowledge production (Banks, 1998). Therefore, subjectivity is valued in the construction of objective knowledge (Grbich, 2013). Therefore, explaining my biases, as I did in the researcher bias section, shed light on the subjectivity in this study. In terms of the naturalistic inquiry, Lincoln and Guba (1985) suggested a confirmability audit to establish confirmability; however, I did not use an external auditor, so this does not apply to my study. However, peer debriefing served as a confirmability strategy I used to have multiple observer agreement. As additional strategies to establish confirmability, Guba (1981) suggested triangulation and the keeping of a reflexive journal, both of which I used in this study to establish confirmability.
The aforementioned strategies I used to establish credibility, transferability, dependability, and confirmability helped establish the trustworthiness of this inquiry. However, they are not enough to conduct a quality study. Inquirers should also reflect on the limitations of the study to come up with a quality study. In the next section, I will review possible limitations of this inquiry.

Inquiry Limitations

Qualitative research enables researchers to have rich and in-depth information, but it is not without its limitations. Qualitative researchers deal with credibility threats that might add to the limitations of the study. It is crucial for researchers to identify and acknowledge their limitations and bias and that they endeavor to achieve the knowledge and skills to do this (Treece & Treece, 1986). Presenting how much the self is included in the research process helps identify the power relationship between the researcher and researched (Lincoln & Guba, 2003). Understanding the biographical journeys and values of researchers might also help inquirers reach at objectivity (Banks, 1998). These strategies helped me to cope with the limitations of the study. In an effort to acknowledge the limitations of this study, I identify (1) bias, (2) reactivity, (3) role duality, and (4) accuracy of data as four potential inquiry limitations.

Researcher Bias. In qualitative research, a researcher is considered to be the instrument of the study (Denzin & Lincoln, 2003). As the instrument of the study, qualitative researchers work with the co-creation of knowledge alongside participants. Thus, they are not seen as neutral or objective. It is known that researchers’ personal, professional, and political experiences affect all aspects of research (Leavy, 2014). Subjectivity has value, which means that the views of the participants and researcher are respected,
accepted, and integrated into data (Grbich, 2013). As the instrument of this study, I might have some bias in the form of the interpretation of events as seen through my lens as a researcher as a result of my experiences. In qualitative research, the aim is not to eliminate biases, but to foreground them to demonstrate that subjectivity has value in the production of knowledge. It is important to foreground my biases as integral to thorough qualitative research.

Social status affiliations (age, social class, race, gender, occupation) interact and influence, limit, and constrain knowledge production (Banks, 1998; Scheurich, 1994). To put forward my social status affiliation, I am a White, Turkish woman from a middle-income family serving as an English teacher at the age of 31. These factors that make me a part of a cultural community might influence my constructions of the participants from another cultural community with different social status affiliations. Researcher bias also results from the texts inquirers have read and by which they might have been influenced. I cannot indicate all the texts or books that I have read here. However, in terms of identifying what might influence my production of knowledge in this study, I would reflect on the literature I have read for this dissertation. In light of literature that I have reviewed, I think that using interactive digital books might have no significant difference in the reading fluency or comprehension of struggling readers, but readers manipulating digital books might be more engaged in the reading process. Finally, researcher bias also exists in the selection of data that fit the researcher’s goals and preconceptions (Maxwell, 2013) and analysis and interpretation of data. I guarded against all my biases by peer debriefing to examine the collection, analysis, and interpretation of data to counter potential bias threats to the study. In addition, my reflective field notes, which include my
feelings, concerns, ideas, prejudices, and impressions might help to reveal my possible biases.

**Reactivity.** Reactivity refers to the influence of the researcher on the participants studied (Maxwell, 2013). According to Hammersley and Atkinson (1995), it is impossible to eliminate the actual influence of the researcher. As a complete participant observer as the tutor of one–on–one sessions with participants, I might have caused students to change their behavior. However, in a qualitative study, the goal “is not to eliminate this influence, but to understand it and to use it productively” (Maxwell, 2013, p. 125). I tried to make sure as much as possible that participants felt comfortable. Individuals would feel comfortable only when there is a trust relationship. Cooperation and negotiation of the research process with my participants allowed me to build this trust relationship. Negotiation of research is an ongoing process (Carger, 1996), and building a trust relationship requires time. Therefore, I think the two months I worked with my participants allowed me the prolonged time to build this trust relationship.

I audio–recorded my one–on–one tutoring sessions with the participants. However, audio–recording might cause the participants to alter their behavior or withhold valuable information. Thus, an existing limitation lied within how comfortable they were during recording. This might be a credibility threat; reactivity as a result of my effect on the participants as it was my decision to select to use audio–records during the tutoring. In alignment with the ethical considerations, I informed the participants about the use of the audio–recorder during tutoring sessions. I also kept the recorder out of the participants’ line of sight to guard against this reactivity issue.
Role Duality. Role duality refers to conflicting roles when insider researchers expand their organizational membership roles with the research project (Holian & Coghlan, 2013). However, any inquirer conducting a participant observation might also struggle with balancing their roles. I might have confronted with role duality (tutor/researcher) to balance my complete participant role as the researcher and the tutor, since I was the tutor of one–on–one sessions with participants. It is important to distinguish between the two roles (tutor/researcher). However, I was present in the setting as a tutor and reflected on the data as a researcher. The use of audio–recordings and reflective journals allowed me to reflect on the tutoring sessions as a researcher after each tutoring session was over.

Accuracy of Data. Accuracy of data is an important issue to come up with the results that are closest to the constructions of participants. To guard against the limitation of the accuracy of the data, I made use of systematic data collection, multiple data sources for triangulation, thick descriptions, member–checking, and peer debriefing. I used documents, semi–structured interviews, reflective field notes, and audio–recording as data sources to accurately capture what I did during tutoring sessions with the participants on a regular basis (one hour every week for two months). In addition, member–checking and peer debriefing also helped me capture the accuracy of the data.

Chapter Summary

I began this chapter by discussing an overview of the research problem for this investigation and highlighting the purpose of the study and my research questions. Then, I described the rationale for doing qualitative research and explained the theoretical tradition of case study as the major approach for this inquiry. I also emphasized my role as a complete participant researcher in this study. I highlighted the context of my study
and described my study participants, my sampling strategies, and the study procedures. I additionally explained my data collection and analysis methods that I employed for this case study. I further discussed the developed and emerging ethical issues applicable to this study. In this chapter, I also illustrated what strategies I used to ensure trustworthiness throughout the study, as they refer to validity and reliability. Finally, I presented the potential limitations of this inquiry and what precautions I took to guard against them.
CHAPTER 5

FINDINGS

In this chapter, I initially discuss the interactive digital books used in this study and explain the tutoring sessions to clarify the ideas mentioned throughout the chapter. Next, I address the data analysis process and findings of this study. First, I explain the steps taken throughout the journey of data analysis in detail. Then, I present the themes across the three data sources: observation, interview, and documents. There are three themes that emerged through the analysis of the data: “Barriers”, “Motivation”, and “Technology.” Finally, I discuss the findings via within-case analysis for each of the five cases in this study. Under each case, description of the participants is given, and themes that are most prevalent in each case are discussed with quotations from data sources.

Study Overview

This study aims to explore the experiences of six struggling readers with the use of interactive digital books. The focus of this study was on the reading experiences of the participants. In this section, the study will be described in accordance with a description of the interactive digital books and the tutoring sessions.

Interactive Digital Books

The interactive digital books used in this study are under the application of Reading Rainbow. The application has a free version and a paid version that offers more features for the users. For the purpose of this study, I purchased the paid version to access the most features as a teacher and researcher. The application allows users to sign in as a teacher, parent, or student. Once teachers sign up, the application enables teachers to add as many students as possible on their page. Teachers can also add some demographic
information and pictures for each student. Teachers can add three books at a time for each student from a wide range of books in the main library that is divided by genres.

The interactive digital books used for this study have many interactive features. Once users tap on a book, another page with two options is opened; read to me and read it myself. In read to me feature, there is a man, who dubs the story changing his intonation appropriate to age of characters or circumstances. Same voice, with some intonation and pitch changes, sounds in all the interactive digital books. There are also hotspots usually relevant to the content of texts. Stars light around hotspots when a page is opened. In addition, the words on each page get bigger when the “read to me” feature is activated.

**Session Description**

In the elementary school, in which I conducted my study, I served as a volunteer tutor. I was asked to guide some of the students who need additional support to improve their literacy skills. Thus, I worked one-on-one with six students during their regular school hours and guided them in their reading and writing skills. I recruited all the students I worked with as a participant of this study with the written permission of their parents.

Each tutoring session took half an hour with each participant. I worked twice a week with each participant for a total of two months. This equaled 16 individual half-hour sessions with six students. The first session focused on implementing the Reading Interest Inventory (Appendix F) to uncover information about participants’ literacy experiences and the use of interactive digital books. In the second session, I conducted the first semi-structured interview (Appendix D) and showed them an example of how what interactive digital books looked like. Further, I asked them to choose 12 of the 18
books on the applications as individuals’ choice was seen as pivotal in this study. The following 13 sessions focused on tutoring sessions, in which my participants read the interactive digital books with my guidance. Tutoring sessions were comprised of a mini lesson, a practice stage, and a production stage. More specifically, the sessions consisted of 5 minute mini-lesson, 20 minute practice with the interactive digital books, and 5 minute production time.

The 5 minute mini-lessons were based on what my participants missed in the spelling inventories. Before the tutoring sessions started, I got the results of my participants’ first spelling inventories, which was conducted at the beginning and end of the semester by their classroom teachers. The spelling inventories guided me to plan for the mini-lessons. The focus of the mini lessons, which took about 5 minutes, were on the orthographic features participants needed according to their results in the spelling inventories. Thus, this part differed slightly for each participant, since they were at different stages of orthographic development. The practice stage, which took about 20 minutes, were based on reading a piece of the interactive digital book they chose to read based on their interest from the list of 18 interactive digital books chosen for them to be appropriate for their grade level and considering the genre variety. During the practice stage, I asked ongoing questions to check for comprehension of the text and asked participants to make predictions about the text. In the last five minutes, I asked participants to show further understanding of the digital texts with some drawing and/or writing. Although I recorded the tutoring sessions, the audio–recordings of tutoring sessions were not transcribed, but only kept as a reference in case I need to go back and analyze them. In the final session, I conducted the second semi-structured interview
I recorded the two interviews and transcribed them to provide thick descriptions about my participants’ experiences.

**Data Analysis**

In this qualitative case study, I used thematic analysis to analyze and interpret the data to identify core meanings (Braun & Clarke, 2006). To analyze the data, I used a generic coding process for thematic analysis (Creswell, 2003). The generic process involved the following steps: organizing and preparing the data; reading through all the data; beginning detailed analysis with a coding process; using the coding process to develop a description of the people as well as themes for analysis; explaining how the themes have been represented; and interpreting the data (Creswell, 2003).

As the first step in the generic process, I accumulated the field note entries, transcriptions of interviews, and documents collected for each participant as raw data. Then, I read through the data to have a general sense of the information. Next, I began detailed analysis by reading through the data and assigning descriptive codes that are aligned with my research questions, when applicable. After I analyzed all the raw data manually, I entered all the descriptive codes to the excel document on the computer respectively for each participant. Then I defined each descriptive code according to its meaning in this study. After analyzing the descriptive codes, I grouped them under the interpretive codes going along with the descriptive codes for each participant. Finally, I grouped the interpretive codes into larger themes that embrace those codes for each individual.

A few of the descriptive codes were discarded either because they appeared only once or because they were not aligned with the research questions. For example, the data
from field notes revealed descriptive codes such as “Relationships with Relatives”, “Teacher-to-Teacher Interactions”, and “Teacher to Staff Interactions”. The scope of these descriptive codes was not aligned with the research questions or the purpose of this study. In addition, the descriptive codes of “Parental Control” and “Attitude Change” appeared only once. Therefore, these descriptive codes were discarded out of the analysis of this study.

Once I analyzed all the data accordingly, I combined all the excel sheets for each individual for the field notes into one excel sheet and for the interview transcriptions into another excel sheet. This process allowed me to see the frequency of themes for each data collection source as a whole. It also enabled me to make connections between the themes among the data sources. Next, I discussed the interpretive codes and themes for each data collection source to give the reader insight into the analysis process as the next step of the generic process.

**Data from Observations, Interviews, and Documents**

I analyzed all three data sources using the thematic analysis steps suggested by Miles and Huberman (1994). I used a codebook during the data analysis process, which helped me to organize the codes, themes, and their frequency. Five themes emerged from the data sources of participants’ documents, interviews, and observations. The findings for each data source are summarized in the table below.
Table 2

Themes from All Three Data Sources

<table>
<thead>
<tr>
<th>Themes</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observation</td>
</tr>
<tr>
<td>Barriers</td>
<td>X</td>
</tr>
<tr>
<td>Motivation</td>
<td>X</td>
</tr>
<tr>
<td>Technology</td>
<td>X</td>
</tr>
</tbody>
</table>

Below is a discussion of the themes across the three data sources: observation, interviews, and documents. Data from observations revealed the three themes of “Barriers,” “Motivation,” and “Technology.” Data from interviews disclosed the two themes of “Barriers” and “Technology.” Data from documents brought about the theme of “Technology.”

Observation

For this study, I scheduled tutoring sessions, in which I made observations of my participants. More specifically, there were 16 half-hour tutoring sessions for each participant. After each observation, I took descriptive and reflective field notes. Field notes included my description of people, objects, places, events, activities, and conversations as well as expression of my feelings, ideas, concerns, prejudices, and reflections about tutoring sessions.

Field notes from observations were coded using thematic analysis suggested by Miles and Huberman (1994). I coded my field notes by sorting the data into descriptive
codes, then grouped them under interpretive codes, and finally themes. Three themes dominated the observations: “Barriers”, “Motivation”, and “Technology.”

**Barriers.** The theme of “Barriers” was described as the participants’ challenges preventing them to process and respond to comprehension of text. This theme was detailed further through two interpretive codes of *student related barriers* and *environment related barriers*.

The interpretive code of *student related barriers* addressed difficulties in comprehension of text resulting from participants themselves. For example, Montea seemingly had challenges with concentration. About the first meeting in the resource room, I noted:

> He kept wandering around the room, pulling items from shelves, and asking questions. He asked, “Can I play with these games?” “Why don’t Ms. Mona ever bring these games to our class?” and “Can I play with your computer?” Seeing the books on the shelf, he said, “Come. I will show you books I read.” (Field note, March 22, 2016)

The interpretive code of *environment related barriers* involved difficulties in comprehension of text resulting from participant’s environment. At our first meeting, Dorothy mentioned how environment might be a barrier for her by saying: “My teacher does not understand me. My friends make fun of me when I make mistakes” (Field note, March 22, 2016). My reflective field notes also revealed a similar point: “It seems that one reason she might not be good at writing is because others do not believe in her and make her think that way” (Field note, March 22, 2016). In addition to people, school might have created barriers for my participants. My field notes about the school reflects
how even school structure might be a barrier in front of academic achievement of the participants. Regarding this situation, I noted:

The school is an old school that lacks many opportunities that many wealthy schools have. From outside, it does not look like a school unless you carefully look for the school name sign. From inside, it looks like to be a previous car repair area. Even the principal’s room is small with an old round desk and uncomfortable chairs. The classrooms are divided with a wall that is a human length, so they can easily hear each other. Noise might be an issue that needs to be solved. (Field note, March 22, 2016)

**Motivation.** The theme of “Motivation” was considered as a source for reaching at an individual’s target, value, or belief. This theme centered around three interpretive codes of motivation to learn, motivation to read, and reinforcement.

Observation data revealed information about the interpretive code of motivation to read and motivation to learn. For instance, I noted what Madeline shared with me:

“Madeline generally shares her experience and love of reading during tutoring sessions. She shares that her mom reads to her when she picks up a book from the library. If it is a big book with words she doesn’t know, her mom reads to her. If it is a small book, she tries to read it by herself” (Field note, March 25, 2016). When I asked her why she reads books, she stated: “Because I learn new things. Also, I love to look at the pictures in the books” (Field note, March 25, 2016).

Furthermore, I noted information about Madeline’s experience with reading other books. I specifically noted:
Madeline frequently shares some information about the objects, animals, people, and places that are mentioned in the books we read together, which shows her previous knowledge about them. She also shares in which book she read them. She gives detailed information about the books she read related to what she comes across in the digital books we read. This is also a text to text connection. (Field note, March 31, 2016)

**Technology.** The theme of “Technology” addressed the use of digital tools to improve participants’ literacy skills. This theme was further sorted into three interpretive codes of interactive technology, technology fondness, and technology limitation.

The interpretive codes of interactive technology, technology fondness, and technology limitation were revealed in the data from the observations. The interpretive code of technology fondness was most apparent in the observation data of Marco. In the field notes taken right after tutoring sessions, I wrote down:

When I asked Marco what he likes to do during his leisure time, he mentioned that he liked to play computer games. He often talked about the computer games he played with enthusiasm and love. His love of computer games might be a reason behind his short concentration span. (Field note, March 22, 2016)

The interpretive codes of interactive technology and technology limitation were intertwined in the data through the notes I took right after the tutoring sessions. After students’ first use of the interactive digital books, I noted:

When students use the interactive digital books without my guidance, they tended to tap on all over the page on the screen to find out the moving objects. Thus, I
asked them first to read the text, then to tap on the objects to decrease distraction from the interactive features. (Field note, April 22, 2016)

**Interviews**

During this study, I conducted two interviews with each participant to have a deeper understanding of their experiences with the use of interactive digital books. First interview was conducted in the first tutoring session to find out participants’ experiences and perceptions with interactive digital books. The second interview was conducted in the final session to explore my participants’ perceptions towards the tutoring sessions, the use of interactive digital books to read, and their preferences to read from print or digital books.

I transcribed interviews right after conducting them. The transcriptions were coded using the aforementioned thematic analysis suggested by Miles and Huberman (1994). Two themes dominated the interview transcriptions: “Barriers” and “Technology.”

**Barriers.** The theme of “Barriers” was described as the participants’ challenges preventing them to process and respond to comprehension of text. This theme was detailed further through two interpretive codes of *student related barriers* and *environment related barriers*. An analysis of observation data revealed both *environment* and *student related barriers*.

The theme showed itself, especially in the interviews with Marco and Dorothy. In the first interview with Marco, environmental factors seemed to distract Marco. He said: “Wow. Are we going to read from your tablet? Do you have games? Can I play games?” (First Interview, March 22, 2016). He wanted to play with the tablet more than trying to
read it. As I asked him to move the tablet away and answer some questions, he got upset. Promising to use it after he finished answering my questions to get to know him worked to keep him engaged with the questions. While he was answering the questions, he kept wandering around the room and saw the audio recorder, which I had put away from his eyesight. Showing the audio recorder, he asked me: “Can I look at this? What is this? Why do you use it? Can I press here?” (First Interview, March 22, 2016).

The data from the second interview with Dorothy also displayed experiences with the theme of “Barriers”. When I asked her what challenged her most as she tried to read, she explained: “Some books usually has big words in them. I do not want to read when they have big words” (Second Interview, May 5, 2016). Instead of inferring meaning from context, she always stopped reading the text when there was an unknown word in it. Although I showed her how she can look for other keys around the unknown word to guess its meaning, she got stuck in such words and stopped reading until she learned the meaning of it. Unknown words seemingly become a barrier for her comprehension of text.

**Technology.** The theme of “Technology” addressed the use of digital tools to improve participants’ literacy skills. This theme was further sorted into three interpretive codes of *interactive technology, technology fondness, and technology limitation*. The interpretive code of *interactive technology* showed itself in both the first and the second interview transcriptions.

In the first interview, when I asked each participant if they used tablets to read a book and what they thought about using them, Marco stated: “I used it just for games” (First Interview, March 22, 2016). Dorothy replied: “Yes. I get on reading and math
games. I read the book about a little boy that lost his little bear. It was good and a little bit easy. At the end, they teach you to sound out the words” (First Interview, March 22, 2016). Alice replied: “Yes. Book was reading it for me. It is like you get to hear it. The volume change. I also answered some question and then played a game” (First Interview, March 22, 2016). Madeline explained:

Yeah. I did, but my iPad broke. It had a lot of books. My favorite books. Every time when I read on the tablet, it gives me some easy books to start off. And on every spelling test, I get some words right, because I read books a lot. And there is some in the books. I remember in my mind that the letters, like s-h, like kind of word like that. It is like get the spelling test right and everything. (First Interview, March 22, 2016)

The second interview data also revealed more in-depth information about the theme of “Technology”, as the participants used tablet to read during tutoring sessions in the meantime. At the second interview, one of the questions was how they felt about someone reading the book to them referring to the read to me feature of the interactive digital books used for this study. Beatrice explained: “I liked it, because I feel like it doesn’t hurt my brain. It sounds easier. When I read it, my brain tells me that I am tired. I feel like I read years and years when I read” (Second Interview, May 5, 2016). It is clear that the challenges Beatrice had in reading caused her brain to get tired when she read. The “read to me” feature helped to relieve this pain since she did not have to worry about decoding words, but focus on understanding of the text. Thus, the “read to me” feature might, at times, be used to support the comprehension of readers, especially struggling readers.
When I asked the participants how they felt about using interactive digital books to read, Madeline explained: “It is kind of pop up books. I like them because they are like half of it you can play. You can read it again and again because it is so funny when you open it. It is like you can see a sea. You just put your two fingers in it and you walk in it” (Second Interview, May 5, 2016). For the same question, Heidi stated: “I like it. It is like a movie, but in a book” (Second Interview, May 5, 2016).

Documents

Throughout the tutoring sessions, I collected documents from my participants to obtain specific details and to make interpretations in order to verify information from other data sources. I collected all the documents as a student portfolio for each participant. The documents consisted of lesson plans, Reading Interest Inventory (Appendix F), and spelling inventory results acquired by my participants’ classroom teachers, and student works such as drawing and writing produced at each tutoring session. I coded the documents using the aforementioned thematic analysis suggested by Miles and Huberman (1994).

Technology. The theme of “Technology” addressed the use of digital tools to improve participants’ literacy skills. This theme was further sorted into three interpretive codes of interactive technology, technology fondness, and technology limitation.

In particular, the interpretive code of interactive technology revealed itself in the analysis of documents. Especially, the questions in the Reading Interest Inventory (Appendix F) to uncover the participants’ experience with the use of interactive digital books and the participants’ explanations disclosed information about this interpretive code. For example, Madeline shared that her mother introduced a digital book with
similar interactions (Reading Interest Inventory, M.). Similarly, Beatrice explained that she previously read from a digital book with moving objects (Reading Interest Inventory, B.).

**Within-Case Analysis**

Throughout the within case analysis, the six participants were described in detail in connection with the themes relevant to their data. The within case analysis for this study was organized around cases and themes. I initially described each participant as a case and then explained the themes that were identified within each case across their data sources. The Table 2 below details demographic information about the participants.

*Table 2*

*Demographic Information About Participants*

<table>
<thead>
<tr>
<th>Participants</th>
<th>Age</th>
<th>Gender</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marco</td>
<td>9</td>
<td>Boy</td>
<td>African American</td>
</tr>
<tr>
<td>Heidi</td>
<td>8</td>
<td>Girl</td>
<td>African American</td>
</tr>
<tr>
<td>Dorothy</td>
<td>9</td>
<td>Girl</td>
<td>African American</td>
</tr>
<tr>
<td>Alice</td>
<td>8</td>
<td>Girl</td>
<td>African American</td>
</tr>
<tr>
<td>Madeline</td>
<td>9</td>
<td>Girl</td>
<td>White</td>
</tr>
<tr>
<td>Beatrice</td>
<td>9</td>
<td>Girl</td>
<td>African American</td>
</tr>
</tbody>
</table>

The Table 3 below summarizes the themes identified in each participant.
Table 3

Themes Across Participants

<table>
<thead>
<tr>
<th>Themes</th>
<th>Marco</th>
<th>Heidi</th>
<th>Dorothy</th>
<th>Alice</th>
<th>Madeline</th>
<th>Beatrice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Case One-Marko

Marco is a nine–year–old African American boy with curly hair up to its root. He has his own style with always wearing a hooded jacket. He lives with his parents and two siblings older than him. His parents sometimes read to him and helped with the words when he asked for help. In spite of being a struggling reader and writer, his interest and passion for courses were of worth mentioning whenever I went to pick him up from his classroom. He was always engaged in the classroom activities.

Barriers. A theme that was clear throughout my interactions with Marco was “Barriers”. For this study, “Barriers” were described as the participants’ challenges preventing them to process and respond to comprehension of text. This theme was detailed further through two interpretive codes of student related barriers and environment related barriers.

The interpretive code of student related barriers addressed difficulties in comprehension of text resulting from participants themselves. Marco had student related difficulties especially in the area of concentration. In the reflective field notes for the first meeting with Marco, I noted: “During our session together, he kept wandering around the
room even though it is a small room. He kept looking at the boxes, pulling things from the shelves and at the same time answering my questions related to the reading interest inventory” (Field notes, March 22, 2016). In the next sessions, I also noted: “He is distracted by anything. That seems to be why he cannot fully concentrate on the book or the activities. Marco did not follow the words when the book was reading to him” (Field notes, March 29, 2016). It is clear from the observations of Marco that concentration is a crucial issue to deal with Marco. Concentration might be one of the possible reasons for Marco to struggle with reading and processing texts.

Marco’s concentration went hand in hand with the interpretive code of environment related barriers. The interpretive code of environment related barriers involved difficulties in comprehension of text resulting from participant’s environment. For tutoring sessions, the principal let me use a resource room full of textbooks, graded books for students to read, games, legos, and various other materials for teachers to use if they desired. It was a great chance to use that room in a school with classrooms separated from each other with a simple screen and where other tutors worked with students one–on–one or in small groups in public places with noise in the background at the school. In the resource room, Marco usually wanted to play with the games around the room or in the tablet instead of focusing on the digital text. It was hard to keep him engaged in the book he was expected to read in the resource room. When he first entered the room for the first meeting, he said: “I read books from the levels … What was my level? It is here. Levels G to H. Let me show you books I read. I read this one and that one, but did not like ending for that one” (Audio record M., March 22, 2016). Looking at the games on the wall behind him, Marco was surprised: “Wow! I didn’t know they had that many
games. Wow. I like this game. We used to play at home” (Audio record M., March 22, 2016).

Since there was no other chance to work in any other quite area or without attraction, I sometimes incorporated the use of the games around the room or in the tablet in the production activity relevant to the digital text he read. His reaction was: “Really? I can play with them? Ms. Mona would bring such games, but she does not bring anymore” (Audio record M., March 22, 2016). Marco wanted to tap on any application in the tablet; however, he ended up using the drawing and sorting applications to benefit his literacy skills. In the drawing application, he took the time to figure out how to use the extra tools within the application, which took only a couple of seconds. When he tapped on the sorting application, another page with three options popped out; ‘learn words,’ ‘practice words,’ and ‘games with words.’ He chose the ‘games’ option, but failed to score high. When I told him he needed to learn and practice them first in order to achieve a high score, Marco listened attentively and tried again, this time tapping on the ‘learn words’ and then the ‘practice words’ options. Then he tapped on the ‘games’ option and ended up with a better score than before. He said: “You were right. It is best to learn first, then to play the games, but the game was fun” (Audio record M., March 22, 2016). Playing with games around the room and on the tablet helped Marco to somewhat focus on the text and relieve his desire to play with games a bit. However, concentration seemingly remained a challenge for Marco to deal with in order to be able to process the text.

**Technology.** The theme of “Technology” addressed the use of digital tools to improve participants’ literacy skills. This theme was further sorted into three interpretive codes of *interactive technology, technology fondness, and technology limitation.* “Technology”
was a theme that appeared most frequently across all data sources of Marco. Marco displayed experiences mostly related to the interpretive codes of *interactive technology* and *technology fondness*. The interpretive code of *interactive technology* addressed a wide range of components from the use of hotspots to their being a source of distraction. For the purpose of this study, hotspot distraction is described as hotspots dragging readers away from reading and processing the text effectively.

Hotspot distraction was a challenge that I expected based on what the literature suggested depending on experimental studies. At the beginning two tutoring sessions, my participants were free to navigate on each page until they finished reading that page. However, I realized that some participants, like Marco, focused on hotspots more than on text. Marco constantly wanted to touch hotspots without worrying about understanding the text. He kept pressing on the hotspot before, after, and even during reading the text on a page. In order to prevent this, after the second session, I instructed Marco and other participants initially to read the text and then touch the hotspots on that page. This helped them to shift their focus to the text first and then on the hotspots.

The interpretive code of *technology fondness* explained the devotion of students towards the use of digital tools for fun. Marco was fond of any type of technology. At the first session with him, I mentioned how we were going to use tablets to read and improve his literacy skills. Marco was thrilled at the idea of using tablets regardless of what purpose we were going to use it. He explained his love of technology by saying: “Yeah. iPaaaaaaads! I love to play games with the computer” (Audio record M., March 22, 2016). Throughout the tutoring sessions, Marco’s eyes widened after touching a hotspot. The first time he touched a hotspot, he stated: “Wowww! Did you see that? I will do that
again. You touch it” (Audio record M., March 22, 2016). When there was a hotspot he really loved, he asked me to touch it, too. He loved to touch hotspots again and again to see them move.

Case Two-Heidi

Heidi is an eight–year–old African American girl with medium wavy hair. Her hair is usually braided and with a different style every day. She always wears a necklace that she told that her uncle gave her as a present special for her. She lives with her mother and siblings, but goes to her father’s house every weekend to spend some time. She had a younger sister that Heidi told me that she found annoying, as her little sister talked more than she desired. Heidi was very talkative and shared much of what she did in her daily life, which made it easy to get some information about her experiences. She was always positive in her perspective. She also smiled frequently.

Technology. “Technology” was a prominent theme in the field notes from the observations of tutoring sessions with Heidi. The theme of “Technology” addressed the use of digital tools to improve participants’ literacy skills. This theme was further sorted into three interpretive codes of interactive technology, technology fondness, and technology limitation. Heidi displayed experiences related to the interpretive codes of interactive technology and technology limitation.

The interpretive code of interactive technology included any aspect in which interactive technology was incorporated into meaningful literacy learning. Heidi had positive attitudes towards the use of digital books with interactive features just like the hotspots used for the purpose of this study. During the second interview, Heidi explained her positive attitude towards working with interactive digital books with read to me
feature by stating: “I think they were helpful. I need to know what the character is saying from their own mouth, like not from the words, from their own mouths. When they make noise, that makes me happy. We never did that before” (Second Interview, May 5, 2016). At the beginning, Heidi told me that she was surprised to hear that the book can read to her. She thought the person dubbing the story was the same character as in the story related to the content and picture. She thought it is a necessity to listen the story from the characters’ own mouths, which she stated made her happier.

Heidi further described her preference to use tablet instead of a print book to read by stating: “On a tablet, you can actually touch the screen. On a book, you can flip the page. And the book, you cannot touch the books. I prefer tablet book, because they are more fun. They are like Ms. Davis is reading. She can speak different words in different tones” (Second Interview, May 5, 2016). Heidi preferred tablets over print books because, for her, the former was a source of entertainment for learning. She highlighted that the interactive feature of touching and read to me feature affected her choice. From what Heidi told, it was clear that Ms. Davis made positive impact on Heidi’s reading attitude by adapting her tone based on the characters and what they said, which Heidi connected to the ‘read to me’ feature in the interactive digital books used for this study.

In addition, the interpretive code of technology limitation revealed itself in Heidi’s data. The interactive digital books used for this study had some of limitations, such as small fonts and distracting stars lighting around hotspots at the time of reading. Also, there was no way to de-activate the ‘read to me’ feature or to turn off the voice. Thus, it worked non-stop until everything on the page was read. Every time Heidi turned a page, the letters were big enough to be easily read. However, turning a page was
connected to the ‘read to me’ feature, so after the ‘read to me’ feature was done reading, no matter whether the sound was on or off, it made the sentences smaller which made it, sometimes, hard to see. In such cases, Heidi stated: “It drives me crazy when it gets that small” (Audio record H., March 25, 2016).

Case Three-Dorothy

Dorothy is a nine–year–old African American girl. She is tall for her age. She lives with her mother and a sibling younger than her. Dorothy seems to be a sensitive girl who is affected by any negative behavior. She sometimes had tearful eyes when I went to pick her up, which turned out to result from negative behaviors by her friends or the teacher. Every time we got together, she shared more of personal stories connected to her struggles in life. Once she mentioned about an accident she had when she was a little child. Her father was driving the car and did not see her behind the car and drove the car backwards, which caused her to be rolled under the wheel. This resulted in her having a stroke.

Barriers. Throughout Dorothy’s data, “Barriers” was a theme that showed itself in all her stories. For this study, the “Barriers” theme had to do with challenges preventing students to process text efficiently. Dorothy displayed experiences that were directly related to the interpretive code of environment related barriers.

The unfortunate car accident caused Dorothy to have a stroke. During tutoring, Dorothy mentioned that doctors told her the stroke might be directly related to her strong imagination. Dorothy always talked about extra ideas that were not even related to what was mentioned in the actual story. Learning about her stroke explained to me why she might be having trouble in processing text and responding to questions about texts.
Imagination is actually a great ability of an individual’s mind to be creative, but not so much in cases where standardized tests look for factual information or direct inference from the text. Thus, Dorothy’s imagination was unfortunately a source of her struggle in tests, which made her be identified as a struggling reader, though if directed appropriately, she might use this skill as strength in her studies.

In addition, Dorothy, who was only a third grader, had experienced the frequent changing of schools. This is a possible environment related barrier to her learning, since changing schools might impact adaptation problems in building friendships, getting used to the school chores, teachers, school subjects, how they are told, sources, how to use them, environment, and even community. This might be another reason behind Dorothy’s struggle with school subjects.

Another environment related barrier to keep Dorothy struggle in reading was the attitude of her peers. Dorothy sometimes was in a bad mood when I went to pick her up from her classroom. She always mentioned what was wrong with her only after we got into the resource room. The problem always had to do with her classmates, who poked fun of her, or sometimes the teacher, who she believed did not understand her. In a session during which she came in with tearful eyes, she explained that one of her friends was making fun of her. When I asked her if she mentioned that to the teacher, she stated:

It is kind of embarrassing that I cannot write. Not spelling it correctly… Ms. True does not understand me. My friends make fun of me when I write. Only Jennifer and Lisa with the red hair don’t make fun of me though, but everybody else does.

(Audio record D., April 22, 2016)
Case Four-Alice

Alice is an eight-year-old African American girl with a serious look on her face. Her mother braids her hair differently each time. She had a different coat and matching hair clips put on her braided hair every time she wore a different color coat. Alice always listened to the instructions and responded to them during our tutoring sessions. However, she was not very talkative and responded to questions with the shortest answer possible. Every time I went to pick her up from the classroom, she was engaged in classroom activities, and she was notified either by her friends or teacher that I had arrived to pick her up.

Motivation. The theme of “Motivation” was considered as a source for reaching at an individual’s target, value, or belief. A theme that was prominent in Alice’s data was “Motivation.” This theme centered around three interpretive codes of motivation to learn, motivation to read, and reinforcement.

Throughout the tutoring sessions, Alice displayed experiences that were relevant to the interpretive code of motivation to learn and motivation to read. The interpretive code of motivation to learn was evident throughout Alice’s data, especially from field notes. Alice was a shy and quiet student. In the first interview, though, I was able to learn that Alice loved Princess Tiana from the animated movie, “The Princess and the Frog.” I prepared a folder for each participant to put their tutoring session documents. For Alice, I took a print of Princess Tiana’s picture and wrote Princess Alice on a paper in her favorite color below the picture. The next time we met, I showed her the folder, and her eyes widened with surprise and delight. Alice was a hard-working student no matter how much she struggled. She already had motivation to learn evident in her behaviors during
tutoring sessions. However, my efforts to engage with her interests helped to grab her interest and motivate her to learn and engage in reading more.

The interpretive code of motivation to read showed itself beginning with an event that took place during the third time I went to pick up Alice from her classroom. During the first two sessions, Alice did not show much interest in working with me. However, during the third session, things changed dramatically. That day, I went to her classroom to pick Marco to work with. Although Alice knew it was not her turn yet, she grabbed my arm to show me something. Her excitement was clear from her eyes as well as voice. She explained that she went to the library to check some books out to read and found the print version of the book, “Acoustic Rooster,” which we worked on as her first interactive digital book during our second session together. After that occasion, she showed more interest in the sessions and engaged in the interactive digital books to a greater degree than she had previously done.

**Case Five-Madeline**

Madeline is a nine–year–old White girl. She is the only White girl in her classroom. Based on the standardized test scores given by the principal and observations of Madeline’s proficiency throughout the tutoring sessions, Madeline’s proficiency in reading and writing was far better than other participants in this study. However, she still needed some help in reading, but especially in writing as a student identified as a struggling reader. She lived with her mother and two brothers. One of her brothers worked in the army, which led Madeline to select and read books about the army. A job in the armed forces was also her dream occupation. She consulted her brothers when she needed help in school subjects. Her mother and brothers were role models in reading for
her. She was the only participant who did not show any preference for reading from tablets or from print books. She was self-motivated to read without worrying about the material or mode of the book. She just seemed to want something to read.

**Technology.** Another theme that showed itself through Madeline’s data was that of “Technology.” The theme of “Technology” addressed the use of digital tools to improve participants’ literacy skills. This theme was further sorted into three interpretive codes of *interactive technology, technology fondness,* and *technology limitation.* Madeline’s experiences were centered on the interpretive code of *interactive technology.*

The interpretive code of *interactive technology* addressed a wide range of components from the use of hotspots to their being a source of distraction. Although Madeline stated that she did not care what source to use as long as she read, her reactions towards the use of hotspots sometimes countered that statement. At the beginning, after she pressed on a couple of hotspots, she said: “This is like a movie, but in a book” (Field notes, March 25, 2016). This is a short statement, but a powerful one. She related interactive digital books to movies, and she had fun while using them. The statement indicated that she found the interactive digital books with hotspots as live as movies. When her amazement and excitement at the time of telling this statement were considered, she seemed to love using such books.

The following quotations from her statements in the second interview also emphasized a focus on the interpretive code of *interactive technology.* At different times, Madeline said: “It is really fun to tap it” (Second Interview, May 5, 2016). She frequently highlighted the fun aspect of such books by saying:
It makes me laugh. Because it is funny. Like it helps you when you don’t want to stay there and wait and nothing moves, like you can get on your tablet and add an app and put reading. It will help because I wish books can move. (Second Interview, May 5, 2016)

Madeline also emphasized that such books might bring out imagination by explaining: “It was pretty interesting. Because when you read it, imagination comes in your mind like imagine like princesses wandering around” (Second Interview, May 5, 2016). When she was specifically talking about what hotpots mean to her, she stated: “They are helpful, because they go to the story and when you press on it, it makes you feel that you can like turn the page and do another one and another one” (Second Interview, May 5, 2016). The interactive feature of such books reminds Madeline of how fun a book might be. She wishes the books to move. No matter how funny or boring the story of a text is, it seemed that Madeline expected more action from a book. The hotspots also seem to have increased her motivation, as she wanted to turn the page and do another one.

**Case Six-Beatrice**

Beatrice is a nine–year–old African American girl. She was identified as a struggling reader, but during our tutoring sessions she displayed that she had extensive recall of details about each digital text that we read. Beatrice seemed to be shy, as she did not speak except in answering questions. Although she was less talkative than the other participants, she shared more information about herself every session as she got to know me more and trusted me. Beatrice disclosed little information during the first session.
However, she revealed much information about herself and the use of interactive digital books during the second interview at our final session.

**Motivation.** The theme of “Motivation” was represented through Beatrice’s data. This theme centered around three interpretive codes of motivation to learn, motivation to read, and reinforcement. In particular, the interpretive code of motivation to read was elucidated from Beatrice’s data.

Beatrice was aware of the challenges that had brought her to the tutoring sessions. In one of the tutoring sessions, she openly explained one of her reading challenges:

“Some words are not easy. Because words kind of sound like ‘o’ ‘u’ ‘d’, but when you write, it is different” (Audio record B., March 31, 2016). The arbitrariness between the sound and how it was written was a big challenge for Madeline to overcome. That is why she kept asking for how a word was sounded out whenever she was not sure how to pronounce it. Sometimes, she just stopped reading when there was a big word for her. At such times, she looked at me without saying anything. Her look had a big echo of ‘help me out!’

In spite of her awareness of such challenges, Beatrice was very motivated to read. She especially wanted to read high-level books like her mother reads. Beatrice was the only participant that kept asking for the meaning of unknown words. She seemed to want to learn and to read. Actually, she had the interest, curiosity, and motivation to read; however, they did not help her to accurately pronounce the words, understand the text, process it efficiently, or respond to the text in a manner to show comprehension.

Beatrice had interest in reading that brings fun to her. When that was not the case, she lost her motivation and desire to read. In a conversation, she explained how she loved
to work one–on–one together in that small room. She stated: “Reading is not fun in the class, but in here, with like nobody else in here, but you and I. It feels like we have more and not crowded. I like it better here” (Audio record, April 6, 2016). In a regular classroom, Beatrice might not have the chance to work one–on–one with a teacher in a private place. However, this does not mean that her teacher cannot rearrange some activities based on her interest and needs for more motivation and more efficient academic outcomes.

**Technology.** The theme of “Technology” addressed the use of digital tools to improve participants’ literacy skills. “Technology” was a prominent theme through the analysis of Beatrice’s interview transcription. This theme was especially found within her data at the final interview. This theme was further sorted into three interpretive codes of *interactive technology, technology fondness, and technology limitation.*

Beatrice’s data centered on the interpretive code of *interactive technology.* The interpretive code of interactive technology addressed a wide range of components from the use of hotspots to their being a source of distraction. During our initial conversations about what Beatrice thinks of using technology to read, she explained that she loved to use technology for anything. However, she did not share any further details about why until she worked on interactive digital books. Her first reaction towards the first hotspot she moved was: “It is like a movie!” (Field notes, March 23, 2016). After a couple more sessions, I asked her what she thinks of using interactive digital books with hotspots, she answered: “They were fun and really like awesome. Because you know how the books you read, you use your imagination and can see in your mind. I love that” (Audio record
B., April 7, 2016). She further stated: “You feel like you can go inside of the book to explore. Your brain pops out like fun parties” (Audio record B., April 7, 2016).

In a conversation about how she feels about hotspots, Beatrice shared a very interesting discussion. She stated:

I just feel happy when I read it and kind of alone. ‘Cause when you shot the door, you want to read that book. A little bit sad, because when in the book, the people are getting hurt. When you touch the screen, somebody saves you. When it pops up, something is falling down. They catch you. You are okay. (Audio record B., April 20, 2016)

Importantly, she indicated how she felt as though she was one of the characters in the book. During her reading process, she was affected by what happened in the story. The hotspots impacted her reactions as she watched them move carefully.

When I asked if Beatrice preferred to read from tablets or print books, she stated:

From tablet. Why do I like them more is because they have like more sense in them than the other books, and they have more writing. The other has a little bit. That makes me feel like that I don’t want to read no more. I want to read something more ability. (Second Interview, May 5, 2016)

From this statement, it was clear that Beatrice liked to be challenged by the amount of writing and meaning in a book, and the interactive digital books she read in the sessions provided her the challenge she desired. Her statement above did not show any preference between tablets and print books in terms of technology or interactivity, but she demonstrated that the print books she had read so far had less writing and sense in them, which did not boost her motivation to read more.
Chapter Summary

This chapter began with a brief explanation of the interactive digital books used in this study. Next, the data analysis steps were explained in detail. Then, themes were presented across the three data sources. Following that, within-case analysis was presented with supporting statements of the participants. Under the within-case section, each participant was described in detail. The themes that arose from each participant’s data came along under each participant’s description.

Throughout my analysis of the data, three themes arose. The first theme was that of “Barriers”, which addressed participants’ struggles hindering them to process and comprehend the text. The next theme was that of “Motivation”, explaining a source for reaching at an individual’s target, value, or belief. The final theme was that of “Technology”. In this theme, the emphasis was on the use of digital tools such as tablets and computers in order to help participants to improve their literacy skills. In the next chapter, I will discuss some of the implications of this study and emphasize the educational significance of the findings of this inquiry. Finally, I will also make some recommendations for potential future research directions.
CHAPTER 6
CONCLUSION

In an effort to derive meaning from my participants’ experiences and to highlight some of the study implications, I included the voices of the respondents above. In this chapter, I explore the implications of this study stemming from the three dominant themes that were revealed across my data sources: identifying the challenges of struggling readers; planning and implementing a literacy curriculum appropriate to the needs of each struggling reader; and preparing, choosing and/or using meaningful technology to support them in their literacy practices. I also highlight the educational significance of the findings of this inquiry. Finally, I make some recommendations for future research directions based on themes and underscore possible study limitations.

Implications of the Findings of the Study

This research study aimed to investigate the literacy experiences of struggling readers within tutoring sessions that focus on the use of interactive digital books. I utilized a qualitative case study to include the voices of my participants. In this way, I examined their experiences and uncovered various narrative themes within and across their experiences. I consider here how their storied experiences and the related narrative themes were highly useful for shedding light on some of the outcomes of using interactive digital books with struggling readers.

Barriers

One of the central questions guiding this study was: How do struggling readers describe their literacy experiences related to the use of interactive digital books during
tutoring sessions? The predominant aspect of experience connected to the research question was “Barriers”. The essence of “Barriers” resonated throughout my investigative observations and interviews, but not the collected documents.

I previously described the theme of “Barriers” as the participants’ challenges preventing them to process and respond to comprehension of text. The theme of “Barriers” showed itself, especially in the stage of trying to identify the challenges causing struggles for my participants. For instance, when I questioned what challenged Dorothy most as she tried to read, she explained: “Some books usually has big words in them. I do not want to read when they have big words” (Second Interview, May 5, 2016). She further highlighted how the environment caused her to struggle more by stating: “My teacher does not understand me. My friends make fun of me when I make mistakes” (Field note, March 22, 2016). Another participant, Marco had barriers in front of his comprehension of text, because he had trouble with concentration. Throughout the tutoring sessions with him I noted that: “Marco kept looking around the room, asking questions unrelated to the target of tutoring, being distracted by the pop–ups of the digital book” (Field note, March 29, 2016).

This theme revealed a deeper meaning into the literacy experiences of struggling readers. One of the insights gained is how much variety there is in the barriers causing struggling readers to have difficulty in their literacy practices. While some of my participants had barriers in concentration, the others had reasons such as barriers resulting from brain damage; having difficulty with remembering new words; lack of literacy instruction before first grade; absence of parent guidance at home; and pressure from peers, teacher, and parents over achievement at school.
Another important insight connected to this uncovered variety of barriers is the significance of implementing a one–on–one instruction to support struggling readers. Struggling readers can best be supported through cognitive strategies in which one–on–one instruction is used to enhance their comprehension (Cooper, 1999; Echevarria, Vogt, & Short, 2000; O’Malley & Chamot, 1990; Shearer, Ruddell, & Vogt, 2001; Wasik & Slavin, 1993). The results of this study also supported this and indicated that one–on–one instruction was constructive for struggling readers. For this study, one–on–one instruction was extremely helpful for my participants to focus on working on texts without any environment and peer pressure, to spend more time with teacher as facilitator, to work on their struggles and needs in reading and writing, and to enhance their comprehension by making sure that they really comprehend what they read. All these are essential skills to become academically successful and to compete with their peers in a scholarly manner.

Since struggling readers have unique reasons to cause them to have comprehension problems, they may need a more personalized instruction to appeal to their needs and overcome their unique barriers. Accordingly, this study revealed that every struggling reader needs a unique literacy curriculum with strategies that are unique to their needs. Although it might be hard to achieve a unique literacy curriculum for each struggling reader, this might be achieved through support from teachers by giving extra effort and time to these students or from parents by guiding their children with the assistance of the teachers.

The other central question guiding this study was: What is the academic potential of using interactive digital books among struggling readers? Through this question, I specifically intended to investigate how interactive digital books support and motivate
struggling readers in their literacy practices. In connection to the research question, “Motivation” and “Technology” revealed themselves in the analysis of data. “Motivation” was reflected throughout only the observations, while “Technology” showed itself throughout all the three data sources: observation, interviews, and documents.

**Motivation**

The Latin root of motivation means "to move" and motivation moves people to act to do a specific behavior (Eccles, Wigfield, & Schiefele, 1998). In keeping with this broad view of motivation, I described motivation as a source for reaching at an individual’s target, value, or belief in this study. Since the target of students might be different from the target of the schools and curriculum, academic success might not always be provided. For example, one participant, Marco, loved computer games. Thus, he always wanted to play with the games on the tablet rather than urging himself to read what he was asked to read. The two targets need to correspond to provide motivation to read. That is why allowing Marco to play educational word games related to the text only after he read what he was supposed to read became a source of his motivation to read. When teachers can arouse students to expend greater effort, students might be more willing to pursue learning for their own sake.

At a tutoring session with Madeline, she shared her source of motivation to read by stating: “I like to learn new things. Also, I love to look at the pictures in the books” (Field note, March 25, 2016). At another session with Alice, she got very excited to read from interactive digital books after she came across with the print version of the same
book she read from interactive digital books. Coming across with the same book became a source of motivation to read for Madeline.

Individuals’ choices were seen in this study as significant to motivation, as they led individuals about which tasks to do; retain the persistence with which individuals pursue these tasks, and determine the intensity of their engagement in these tasks. In an effort to account for individuals’ choices, I provided a list of the interactive digital books that were appropriate to their levels on the application and asked them to choose based on the topics that they like. This provided a window for struggling readers to make decisions about what they read. In turn, when they made choices about what they read, they tended to be more motivated to read. This finding is consistent with the literature on choice and motivation (Covington, 1992).

My inquiry also connects with literature regarding how boosts in motivation leads individuals to put more energy to succeed (Bandura, 1995). Struggling readers who are motivated to read are more likely to overcome the challenges, causing them to fail in many school subjects. Within this investigation, when the motivation of my struggling reader participants were increased with sources they liked or regarded as reward, this resulted in success in their achievement of comprehension of text.

**Technology**

In this study, the theme of “Technology” addressed the use of digital tools to improve individuals’ literacy skills. Some of these digital tools provide interactive features to support literacy practices of users. I explored in an earlier chapter how the interactive features of technology bring a new perspective to literacy learning and
teaching. The interactive features of technology allow the users to manipulate the content by putting them in the center of learning. As I previously related in-depth, once users manipulate the content through some sort of interaction, learning becomes experiential. The more experiential learning is achieved, the more permanent knowledge is received. However, as discussed above, digital books with interactive features need to be assessed seriously before they are used as an augment. The interactivity of hotspots might be both encouraging and discouraging for students to want to read more.

For example, some of the pages on the interactive digital books used for this study only allowed my participants to interact with text by pressing on hotspots that were evident through shining stars on each page and by turning pages with a click. This interactivity feature of the text did not provide a true interaction with the content of the text; however, it did enhance my participants’ enjoyment of what they read and increased their motivation to read. Nevertheless, one participant, Marco, often concentrated on the moving objects on the page more than on the content of text. Marco loved to touch the hotspots, and it was challenging for him to keep himself from using them before reading the text. Marco’s case displays how other students might also want to finish reading texts quickly and without full comprehension in an effort to press more hotspots on other pages. Thus, my study showed that interactive features of some books might become an environment-related barrier rather than a source for motivation to read unless guidance is provided to direct students to read them and to use interactive features of the books meaningfully. This inquiry therefore indicated that hotspots might be distracting, especially for struggling readers, unless they are used efficiently.
On the other hand, the findings of this study explored how interactive features on digital books might also be encouraging in that users, especially the ones with various struggles with text comprehension, might grab the message easier through hotspots related to the content of the story. Therefore, it is recommended that teacher or parent guidance is of high importance to direct students through interactive digital books with hotspots related to the content. Teacher or parent guidance is also significant to assist students with concentrating on the message of the story rather than on hotspots while using such books with struggling readers. Therefore, a significant implication of this study is that instructors are of great importance to guide readers appropriately by making sure that they focus on meaning more than attractions throughout interactive books.

Although there are abundant interactive digital books in the app store, a majority of them are designed just for fun with hotspots that were unrelated to the content. No interactive digital book in the store is without its limitations. The interactive digital books I selected for this investigation were the ones that served the purpose of this study: having appropriate grade levels for my participants and hotspots that were related to the content. Some of the hotspots in the target interactive digital books helped participants in the area of inference making, as they were directly related to the content. For example, in one of the books that my participant, Dorothy read, the text mentioned about kids embracing each other. When she asked me what the word *embrace* meant, she clearly had no idea. However, she was able to figure out the meaning when she pressed on the hotspot and it showed the kids embracing each other. My study displayed how it is possible for digital books with hyperlinks and hotspots to enhance learning for struggling
readers, but such books need to be selected with care by instructors to ensure connections are made between content and interactive features of the books.

**Recommendations Stemming From This Study**

One of the components of mass education is to transmit knowledge to children that they need to effectively function as a member of the society. In order to be part of the society, they are expected to acquire the skills of literacy, basic arithmetic and a basic understanding of civics (Tait, 2013). In this study, interactive digital books were used to support the literacy practices of struggling readers. For the purpose of this study, interactive digital books were used as the main source of instruction to support the literacy practices of struggling readers and observe their experiences with the use of them. It was found that this technology might have some positive and detrimental effects on the literacy improvements of individuals.

There are a couple of issues to consider before deciding to implement this technology in the process of learning and practicing. This technology demands costs and training from teachers and time to guide students. Keeping all these in mind, this technology might seem like burden more than benefit. Although this study focuses on the use of interactive digital books to support the literacy practices of struggling readers, this technology should not be understood as a substitute for teaching. Technology might be a tool to support instruction, but not the target of it. Therefore, interactive digital books should be considered as an augment to support some of the literacy practices if needed and used by a teacher or parent appropriately.

In the 21st century, it is crucial to prepare students for both print-based and technology-based sources to support their learning. Teachers might benefit struggling
students through the integration of sources like technology that is adaptable with their individual needs. However, unless effective digital tools that are appropriate to students are chosen and used, technology might have some negative effects on the education of students. Selfe (1999) suggested that technology might be integrated into curriculum effectively only if the dangers of it are known and taken action upon. Teachers might benefit their students if they choose effective and quality digital tools, know the negative effects of the target technology, and integrate it considering those negative effects and finding innovative ways to refrain from them.

Not only teachers but also parents might benefit from the integration of interactive digital books into their children’s education when they use it meaningfully. Parent involvement in children’s education has shown to result in better academic outcomes, fewer behavioral problems, and lower high school dropout rates (Henderson & Berla, 1994). Parents, especially those who need assistance in the education of their children outside the school, might benefit from the vast amount of beneficial sources that technology provides. Some interactive digital books have vocabulary help built in them; most of them have ‘read to me’ feature; some of them highlight the words when ‘read to me’ feature is activated for easy tracking; and some of them have comprehension questions and answers at the end of texts. Parents might benefit from such sources of interactive digital books to help out their children, especially during times when they feel insufficient because of a learning barrier, not having enough formal education, being from another culture and unfamiliar with the vocabulary, structure, or pronunciation of target language.
Children might use these sources without necessarily having somebody around them. However, children are not always aware of the negative sides of technology (Udo, 2001). Unless they have some guidance from a parent or teacher who is aware of the negative sides and take action upon them, they might easily get distracted. Thus, it might be of significance to have a parent or teacher as a facilitator to support literacy instruction while using interactive digital books.

This study has some implications not only for educators and parents but also for digital text designers. The design world is a profit-based world, so designers put the attraction side of products upfront in order to earn more money. They believe that is how they grab more attention of more customers (Cooper, 2004). The designers put the fun aspect upfront by making the content inferior to layout of the product. By doing so, they may not consider the benefit of their products to their customers.

During the course of this study, I struggled with text selection. In particular, I noticed that when the word of digital books is entered in the search box of app store on a tablet, there is a vast majority of sources. Using the search term of interactive digital books seemingly results in a drop in the pedagogical quality of the books. As well, a majority of interactive digital books are the interactive versions of classical books that target for elementary level children. When these books are analyzed, it is unfortunate to see that the interactivity in these books is just intended to be a source of amusement that is unrelated to the content of the text.

In the process of looking for interactive digital books, I had difficulty in finding books that would best serve the needs of struggling readers in terms of contributing to their motivation to read by engaging with the text virtually. It was even more challenging
to locate books that also aimed to improve the literacy ability of struggling readers through quality resources that are organized by grade level and that include content-related interactivity. After a long process of searching, I was able to find suitable texts for my participants. However, even the books that I selected had some limitations, such as having small fonts when the “Read to Me” feature is inactive, including some hotspots that were indirectly related to the content of the text, and adding distracting stars that lit up around hotspots at the time of reading. For this reason, I recommend that digital text designers may focus more on the importance of content and how it is conveyed with the additional features that they provide in interactive digital books, such as hotspots, read to me, games, and puzzles.

At the same time, following the results of this study, I assert that technology can be used meaningfully and effectively to support learning and teaching. If educators want to integrate technology in their classrooms, they do need to consider the strengths and weaknesses of the technology that is chosen in relation to increasing student academic achievement. Another point that teachers might consider is whether interactive digital books or similar technologies can be detrimental to student learning, even if they are included for educational purposes. In this study, hotspots became a source of distraction at the beginning when students were left alone to discover how to use interactive digital books. However, they became a source of motivation with appropriate guidance at further reading processes of these digital books. If teachers know in what ways the selected tool can help them to achieve better learning outcomes, and if they know how their students approach this tool, then there is a high possibility of minimizing the limitations and maximizing its positive impact on learning processes.
Additionally, as I mentioned earlier, technology can be a great tool to differentiate instruction, so it might be used effectively to address individual needs of learners. For example, my participants, Marco, Dorothy, Heidi, Alice, Beatrice, and Madeline, all had struggles with reading and writing, as observed in the classroom and by their test results. The use of interactive digital books proved to be one effective means for working with their individual needs in reading, and so they are a recommendation of this study as long as guided text selection and instructor oversight is available. Technology such as these digital books might also help struggling readers when their instructional path is integrated appropriately, as it helps other groups of learners who need a personalized and differentiated instruction. Thus, technology might take on a specific role to minimize the achievement gap between struggling readers and their peers.

As the outgrowths of my study, this study might further have implications for the education of second language learners. The multimodal features in the digital books might be used to support not only struggling readers but also second language learners in terms of having built in dictionaries to check for the meaning of unknown words. Second language learners might also benefit from hotspots when they are designed related to the content of the text. The multimodal features in digital books might also be constructive for second language learners because they have chance to hear the text from a native with the ‘read-to-me’ feature. All in all, these additional tools in digital books might enable second language learners to support their language learning process effectively when they are used conscious of their positive and negative features.

Furthermore, vocabulary knowledge of second language learners might be boosted through systematic vocabulary activities in digital books. More specifically,
hotspots might be designed to teach specific vocabulary with the inclusion of more action-based-hotspots relevant to the target vocabulary throughout the texts of interactive digital books. For example, characters might hug each other when the user clicks on the target word of ‘hug.’ Visual aids through the actions of characters or objects of the text might benefit vocabulary learning and storage of individuals. Demiroz and Demiroz (2018) supported this phenomenon and claimed that language learning is more efficient when cognition is supported with kinesthetic activities.

Social justice is another important issue to consider in the implementation of these interactive digital books. Social justice is usually defined as providing an equitable education for all so that individuals become change agents and fight for what believe is right. I remember seeing a caricature, in which there are 3 individuals with different lengths trying to look over a bench to watch a baseball game. In the caricature, there are two pictures with two different scenarios to describe the difference of equity and justice. In the first picture of the caricature, equity is described as giving the same-length-banks so that they can see the game. However, the short individual could not still watch the game because the bank is not long enough for his length. In the other picture of the same caricature, justice is described as giving banks as long as each individual needs so that they can really see the game. As it is identified in this example, there is a slight, but very significant difference between equity and justice. If each student is supported with the tools appropriate to their needs, social justice might be achieved. In this case, using sources like interactive digital books to appeal to the needs of struggling readers means providing social justice. However, we also need to take into consideration other issues of access to such sources.
Access to technology and Internet is difficult especially for students from economically disadvantaged backgrounds. In such cases, technology becomes a source of providing social injustice for students of low-income-families. Fortunately, the participants I worked with had access to technology in the school because of a grant that the school received to purchase tablets and use them as support for students’ learning. They also had access to technology outside of school with either smart phones or tablets that their parents had. However, not every student has access to technology to support learning. Thus, the use of technology should be carefully considered because it might be both a source of social justice and injustice.

Access to cultural education is one way of providing social justice. However, not all the books on the market are designed to provide multicultural education for all. The application that I purchased is one of the rare ones that target education aspect more than money. Although this is the case, there are not many multicultural books within the application. There are a couple of books designed to reflect the culture of African Americans, of which my participants, most of whom were African Americans, were delighted to read a text that they felt connected to. Most of the books on the market still do not help students comprehend the racial, ethnic, and gender-related problems they face in their lives. More works of female authors might be published to equalize the number of male and female authors. More stories from various cultures might be shared to have a general idea of the different cultures in the schools and society. The different sides of the stories, especially history stories, might be provided so that readers might look for their own truths to provide students with authentic multicultural education.
Possible Limitations of the Study

The first possible limitation of this study is related to the investigation duration. The study had to be conducted beginning at the middle of the second semester because of details contained in an approved ethical review and consent protocol. However, collecting data starting at the beginning of the semester might have brought out more in-depth information about the experiences of my participants with the use of interactive digital books.

Phillion (2002) emphasized that time in an investigative context cannot be definitive, since each situation is built from previous lessons, experiences, and educational years. Instead, there is a need to focus deeply on data that are collected. Although I was unable to capture information across an entire school semester, I built upon my professional and personal knowledge of struggling readers to guide my inquiry efforts, and I made a concerted effort to bring a depth of detail to the information that I actually collected.

Another potential limitation of this inquiry was the fact that the researcher was also serving in the role of the practitioner among the student-participants. The identification of a teacher who uses interactive digital books to help with the literacy practices of struggling readers was not probable. However, this teacher-researcher model was exemplified in Carger’s (1996) highly acclaimed research text about one boy’s struggle with literacy, numeracy, and English language learning. The author highlighted how a teacher who interacts at length with student-participants may be able to tease apart insights that might be more difficult to capture without such an intensive focus on teaching and research tasks. While I engaged in this manner of researcher-participant
relationship, I made sure to consult a peer in the planning, application, and analysis stages of data to minimize and even to prevent researcher bias.

**Recommendations for Future Research**

In this section, I provide some information about how this study may contribute to the field and discuss what future research I will carry out. This study is significant in that it provides a detailed exploration of my participants in interaction with interactive digital books. It opens another window to literacy education in terms of how digital tools on the market might be an obstacle as well as a source of motivation, depending on the quality of the product. It also enables the readers to comprehend how struggling readers might make use of interactive digital books to support their literacy practices with adult guidance. It might additionally inform meaningful decision-making regarding the use of digital books as an effective and innovative educational technology (Rose & Meyer, 2002).

There is a need to continue to expand the literature base in the area of digital tools, and especially digital books, in application with struggling readers (Ciampa, 2012; Larson, 2010; & Moody, 2010). There is also a need to broaden this line of investigation in a variety of ways. This study was conducted at an urban elementary school. To have a deeper understanding of struggling readers’ experiences, in the future I would conduct this study at various schools with different grade levels and among struggling readers from different socioeconomic, racial, religious, and cultural backgrounds. I might also gather data from parents, teachers, and administrators to more fully understand what struggling readers go through and what might benefit them the most. In terms of duration, I might also structure the study over longer periods of time to provide richer data and
broader outcomes. Conducting this study with adult struggling readers might also bring about different perspectives that may open up new doors for research. I might also conduct this study with more participants and acquire some quantitative data in terms of surveys from teachers and parents as well.

**Conclusion**

In conclusion, reading is one of the amazing skills that most human beings can develop with a level of fluency over time. The act of reading gives meaning to the paths that pencils leave behind. These paths may open new windows, new perspectives, and new ideas. However, reading cannot be learned and practiced for everyone in the same way. Some learners master this skill with a flow while others struggle (Smith, 2004). For struggling readers, decoding letters and words to assign meaning to them become increasingly challenging with higher levels of word difficulty (Iser, 1972), especially when other factors such as adult learning environments and peer pressure are involved in the process (Edmonds et al., 2009).

As I mentioned earlier in this dissertation, I was a struggling reader. Today, I have a five-year-old daughter, who has not yet learned to read. I feel the pressure and desperation of struggling readers whenever she asks me to read price tags or when she brings me a bedtime book and asks “Mommy, please read it for me.”

In this study, I wanted to shed some light on the world of struggling readers and to help them to overcome their challenges with the use of digital books. Importantly, engaging in this investigation served as a reminder to me and a call to all who teach to keep in mind that struggling with reading should not define students or their learning capacities and intelligence (Klingner, Artiles, & Barletta, 2006). If students cannot read,
it is not their fault. Instead, the opportunity and responsibility is on the shoulders of educators to support students so that they can interact with text in meaningful ways. It is my greatest hope that this dissertation raises new possibilities for teachers and widens avenues so that students can have their academic and personal lives broadened by the joys of engaging in reading. My intention is that all educators, and perhaps all parents, who reads this text become inspired to find new and exciting ways to support and inspire struggling readers.
Dear Parents,

My name is Emine Demiroz. I am a doctoral student at the University of Missouri–Kansas City in Kansas City, MO. I would like your child to take part in a research study because your child has been recognized as a reader who could benefit from one-on-one tutoring. This research is part of my doctoral dissertation. If you and your child agree that your child may participate in the study, I will ask your child to use various interactive digital book applications on an iPad during our regular tutoring sessions. I will also audio record the tutoring sessions to capture his/her literacy experiences accurately. The audio recordings will be destroyed after transcription. The transcriptions will not contain the name of your child or the school at which this study is conducted.

All of the information I collect from your child will be kept confidential. I will replace the name of your child, your child’s teacher’s name, and the name of your child’s school with a false name. The information collected from this study will be compiled into a report that will be viewed by my faculty advisor, Dr. Candace Schlein, who is a professor in the same university. The report will not contain any identifiable information about your child. The report will describe your child's experience while using the iPad interactive digital book applications.

The school principal has given permission for this study to be conducted at your child’s elementary school; however, your child’s participation in this study is completely voluntary and your child does not have to participate in the study. Your child’s
participation in this study will not affect your child’s grades or treatment to him/her. Taking part in this research study is voluntary. If you choose for your child to be in the study, you are free to stop his/her participation at any time and for any reason. If you choose that your child not be in the study or decide to stop his/her participation, your decision will not affect any care or benefits your child is entitled to.

There may be some benefit to your child’s improvement in reading proficiency, motivation, and comprehension due to participating in this study. The information from the study might help me to learn what some struggling readers experience with the use of interactive digital book applications. This research is considered to be of minimal risk. That means that the risks of taking part in this research study are not expected to be more than the risks in your child’s daily life. There are no other known risks to your child if he or she chooses to take part in this study.

While every effort will be made to keep confidential all of the information that you or your child completes and shares, it cannot be absolutely guaranteed. Individuals from the University of Missouri–Kansas City Institutional Review Board (a committee that reviews and approves research studies), Research Protections Program, and Federal regulatory agencies may look at records related to this study to make sure I am doing proper, safe research, and protecting human subjects. The results of this research may be published or presented to others. You and your child will not be named in any reports of the results.

The University of Missouri–Kansas City appreciates people who help it gain knowledge by being in research studies. It is not the University’s policy to pay for or provide medical treatment for persons who are in studies. If you think you or your child
have been harmed because you were in this study, please call my Research Advisor, Dr. **Candace Schlein** at (816-235-5754).

You should contact the Office of UMKC’s Social Sciences Institutional Review Board at 816-235-5927 if you have any questions, concerns, or complaints about your child’s rights as a research participant. If you have any questions about this study, you may call me at **816-585-8555** or my Research Advisor, Dr. **Candace Schlein**.

If you and your child agree that your child may take part in the research, please return a signed copy of this form to me in the enclosed envelope. You may keep the other copy for future reference.

Signing here means that you have read this permission form and agree to have your child take part in this study.

________________________________________
Name of Child

________________________________________
Printed Name of Parent

___________________________________________          _________________
Signature of Parent          Date
APPENDIX B

Assent Letter

My name is Emine Demiroz. I am a doctoral student at the University of Missouri–Kansas City. I would like to invite you to take part in my research study. A research study is a special way to find out about something. I am trying to learn more about your reading experiences with some of the interactive digital book applications on the iPad.

If you agree to be in this study, you will be asked to meet with me every Monday morning one–on–one in the school library. This tutoring session will take about one hour. I will audiotape our tutoring sessions to help me better understand your experiences. Being in this research may help you with reading and help you to like reading more.

If you decide to be in the study or if you decide to say “no” your choice will not change your grades. When I am done with the study, I will write a report about what I found out. I will not use your name in the report or in any forms.

You can talk this over with your parents before you decide if you want to be in my study. I will also ask your parents to give their permission for you to be in this study. Even if your parents say yes, you can still say no and decide not to be in the study. If you decide to stop after we begin, that is okay too.

You can ask any question that you have about the study. If you have a question later that you could not think of now, you can call me or ask your parents, teacher, or a friend to call me at 816-585-8555.
Signing here means that you have read this paper or someone read it to you and that you are willing to be in this study. If you do not want to be in this study, do not sign this paper.

___________________________
Printed Name of Participant

___________________________                _____________
Signature of Participant                Date

___________________________
Printed Name of Investigator

___________________________                _____________
Signature of Investigator                Date
APPENDIX C

Site Permission Letter

Date

Dear Institutional Review Board:

The purpose of this letter is to inform you that a researcher at the University of Missouri–Kansas City, School of Education has requested permission to conduct a study, entitled *Bringing Books to Life: A Case Study of the Reading Experiences of Struggling Readers* at the … (Removed for Confidentiality) school.

This letter notifies you that I grant permission to research staff members of the University of Missouri–Kansas City, School of Education to conduct this research at our school. This also serves as assurance that this school complies with requirements of the Family Educational Rights and Privacy Act (FERPA) and will ensure that these requirements are followed in the conduct of this research.

Sincerely,

Principal Investigator: Dr. Candace Schlein

Student Investigator: Emine Demiroz

Study Site Location:

Permission granted by: ……………. (Principal Name)

Title: Principal

Signature:

Date:
Hello, my name is Emine Demiroz, and I am doing this interview as part of my dissertation. I’m interested in learning more about you. I would like to discuss the following topics: your study environment, your reading experiences, and your digital book use. I am also planning to audio–record the interview. Do you give consent for that?

If you do, I would like to ask you a couple of questions.

<table>
<thead>
<tr>
<th>Main Questions</th>
<th>Additional Questions</th>
<th>Clarifying Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell me how you read.</td>
<td>*Suppose I am a new student who just came into your classroom; what would I see going on during reading time? Describe it to me.</td>
<td>Can you expand a little on this?</td>
</tr>
<tr>
<td></td>
<td>*What helps you do well in reading?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*What are your weaknesses in reading?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*What is it about you that you think led you to have problems in reading?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Suppose I am a student who has difficulty in reading and you are a reading teacher. What would you do? How would you help me?</td>
<td>Can you tell me anything else?</td>
</tr>
<tr>
<td>Describe your experience with any digital books such as in a computer,</td>
<td>*Do you have a computer, tablet, Kindle, or iPad?</td>
<td></td>
</tr>
</tbody>
</table>
| tablet, Kindle, or on iPad, if any. | *How comfortable do you feel using any of these devices?  
*Have you ever read a book on any of these devices? If so, what did you read?  
*Was there anything that let you move characters or objects on the page?  
Describe your experience with that book. | Can you give me some examples? |
| --- | --- | --- |
| (After showing an example of an interactive digital book for those who did not have any experience with such books, I will ask …) What do you think about the books that have interactions like moving characters or objects on the page? | *What is your opinion about using such books to read?  
*How would these books support your reading?  
*Would such books increase your desire to want to read more? Why?  
*Would these books help you understand the text better? | |
| If opportunity is given, how would you prefer to read: reading print books or digital books? | *What made you decide?  
*What do you think is the difference between reading from a print book and reading from an iPad application? | |
| Feel free to add any thoughts about any of these issues. | | |

**Field Notes**

Thank you for participating in this interview. Your responses will be kept secret at all times.
APPENDIX E

Interview Guide (2\textsuperscript{nd} Interview)

Time of interview:

Date:

Place:

Interviewee:

Hello, my name is Emine Demiroz, and I am doing this interview as a follow–up for my dissertation. I’m interested in learning more about you. I would like to discuss your reading experiences with interactive digital books. I am also planning to audio–record the interview. Do you allow me to do that? If you do, I would like to ask you a couple of questions.

<table>
<thead>
<tr>
<th>Main Questions</th>
<th>Additional Questions</th>
<th>Clarifying Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe your experience with the iPad.</td>
<td>*How do you feel about using an iPad? *How do you feel about using an iPad to read? *What has affected your opinion?</td>
<td>Can you expand a little on this?</td>
</tr>
<tr>
<td>Describe your experience with the interactive digital books we used that have interactions like moving characters or objects on the page on iPad.</td>
<td>*What is your opinion about using these books to read? *How did these books support your reading? Why? *How did these books motivate you to read? Why? *Did these books help you understand the book better? Why? Why not?</td>
<td>Can you tell me anything else?</td>
</tr>
<tr>
<td>If opportunity is given, how would you prefer to</td>
<td>*What influenced your answers?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>read: reading books on paper or reading from digital books?</th>
<th>*After your experience with these books, what do you think is the difference between reading from a print book and from an iPad? *Why?</th>
<th>Can you give me some examples?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel free to add any thoughts about any of these issues.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field Notes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for participating in this interview. Your responses will be kept secret at all times.
**APPENDIX F**

**Reading Interest Inventory**

**Name:**

**Date:**

<table>
<thead>
<tr>
<th>Main Questions</th>
<th>Additional Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What is your study environment like at home?</strong></td>
<td>*How many people live in your house? *Where do you study? *Who helps with your homework when you need help? *How often and for how long do you read at home? *How many pages do you usually read? *How often and for how long do others living in your house read (in a newspaper, book, or online)?</td>
<td></td>
</tr>
<tr>
<td><strong>How did you learn to read?</strong></td>
<td>*Other people sometimes influence what we do. What other people, if any, helped you to learn to read? *Who is a good reader that you know? *What made you think that s/he is a good reader?</td>
<td></td>
</tr>
<tr>
<td><strong>Do or did your parents read to you?</strong></td>
<td>*If so, how often did/do they read to you?</td>
<td></td>
</tr>
<tr>
<td><strong>Describe how you like to read.</strong></td>
<td>*How often do you read for pleasure? *Some kids say they like to read fantasy books. Others say they like to read sports books, comic books, adventure books, poetry,</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>What types of books do you like to read?</td>
<td>*What is the name of your favorite book?</td>
<td></td>
</tr>
<tr>
<td>*Name other books you have read and liked?</td>
<td>*Why do you like them?</td>
<td></td>
</tr>
<tr>
<td>*What book have you read and disliked? *Why did you dislike it?</td>
<td>*Who is your favorite character from a book?</td>
<td></td>
</tr>
<tr>
<td>*What books have you read recently?</td>
<td>*What are the topics you like to read best? (history, travel, sports,</td>
<td></td>
</tr>
<tr>
<td>science fiction, adventure, funny, comics, mystery)</td>
<td>*What are the types of reading material you like best? (magazines,</td>
<td></td>
</tr>
<tr>
<td>newspapers, picture books, cookbooks, poetry books, internet)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you go to the public library?</td>
<td>*How often do you go to the public library?</td>
<td></td>
</tr>
<tr>
<td>*What do you do when you go to the library?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX G

Observational Protocol

<table>
<thead>
<tr>
<th>Descriptive Field Notes</th>
<th>Reflective Field Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical setting</td>
<td>Feelings, ideas, prejudices, reflections and/or any criticisms about the observation</td>
</tr>
<tr>
<td>Social environment (patterns of interactions, frequency of interactions, non–verbal interactions)</td>
<td>Unanswered questions or concerns that have arisen from analyzing the observation data</td>
</tr>
<tr>
<td></td>
<td>Clarifying points and/or correcting mistakes and misunderstandings in other parts of field notes</td>
</tr>
<tr>
<td></td>
<td>Insights about what I observe and speculate as to why I believe specific phenomenon occurred</td>
</tr>
<tr>
<td></td>
<td>Thoughts that I may have regarding any future observations</td>
</tr>
</tbody>
</table>
APPENDIX H

Level–Appropriate Interactive Digital Book Applications

1. The Snail Girl (2nd Grade)
2. Wind Horses (2nd Grade)
3. Ben Hanukkah Story (2nd Grade)
4. A Mouse Gets Married (2nd Grade)
5. I Don't Want to be a Princess (2nd Grade)
6. The New and Better Casey (2nd Grade)
7. Little Snail Goes for a Walk (3rd Grade)
8. How the Alphabet was Made (3rd Grade)
9. The Wind in the Willows (3rd Grade)
10. To Catch a Sea Monster (3rd Grade)
11. The Great Shark Rescue (3rd Grade)
12. Tommy and the Compass from Another World (3rd Grade)
13. Wind Horses (3rd Grade)
14. The Valiant Little Tailor (3rd Grade)
15. The Fisherman's Boy and the Princess (3rd Grade)
16. Thumbling's Travels (3rd Grade)
17. Marble Master (3rd Grade)
18. Treasure Island (3rd Grade)
APPENDIX I

Running Record

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date:</th>
<th>Book:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Page#</th>
<th>Running Record</th>
<th>Count</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>E</td>
<td>SC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E</td>
<td>MSV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SC</td>
<td>MSV</td>
</tr>
</tbody>
</table>

**Total**

Running Words: Errors: Accuracy: Self Correction (SC):
APPENDIX J

Record of Reading Behavior

<table>
<thead>
<tr>
<th>Oral Reading</th>
<th>Error/Behavior</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Observational Notes:
REFERENCES


Cooper, A. (2004). *The inmates are running the asylum: Why high-tech products drive us crazy and how to restore the sanity.* Indianapolis, IN: Sams.


Language Learners Struggling to Learn: Emergent Research on Linguistic Differences and Learning Disabilities, Scottsdale, AZ.


Leu, D. J. (2002). The new literacies: Research on reading instruction with the Internet and other digital technologies. In S. J. Samuels & A. E. Farstrup (Eds.), *What
research has to say about reading instruction (pp. 310-336). Newark, DE: International Reading Association.


VITA

Emine Demiroz was born on April 13, 1987, in Tekirdag, Turkey. She was the middle of five siblings. Her first educational experience was in 1994 when she attended Ogretmen Mediha Mehmet Tetikol Elementary School. She pursued her middle school years at the Ogretmen Mediha Mehmet Tetikol Middle School until 2001. Emine graduated from the foreign language department of Namik Kemal High School in 2005.

After she took the university exams, she was accepted to English Language Teaching department of School of Education at Trakya University to pursue her passion to be an English teacher. She graduated from university with honors in 2010. In the same year, she was accepted to the master’s degree program in the United States. Thus, she moved to Kansas City, Missouri to pursue her degree.

Emine completed her Master of Arts in Curriculum and Instruction with an emphasis on Teaching English to Speakers of Other Languages (TESOL) at the University of Missouri-Kansas City. Graduating from master’s degree, she was accepted to Educational Specialist Degree in Curriculum and Instruction. She had to quit that degree when she received acceptance to doctoral degree at the same university. She had two precious children on her path to the doctoral degree, which became a source of motivation and inspiration for her studies.

While studying her doctoral degree, she served as a substitute teacher, took on editor positions at several journals, and volunteered as a tutor at various elementary schools. She also volunteered as a tutor for Literacy Kansas City project, which added many valuable experiences to her teaching career. She also worked as office assistant, student professional, and graduate research assistant during her graduate studies.
Throughout her studies, she attended to and presented at several conferences in her field. She also took many awards and grants to support her studies.

Upon completion of the doctoral degree, Emine plans to teach at the university level and urge many others to do their job with quality and dignity.