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Audio-Assisted Reading with Digital Audiobooks for Upper Elementary Students with Reading Disabilities

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AUDIO-ASSISTED READING WITH DIGITAL AUDIOBOOKS FOR UPPER ELEMENTARY STUDENTS WITH READING DISABILITIES

by

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Kelli J. Esteves, Ed.D.

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Audio-assisted reading has been used as an effective instructional intervention for students with learning disabilities (Carbo, 1978; Gilbert, Williams, & McLaughlin, 1996) and with struggling readers (Chomsky, 1976; Hollingsworth, 1978; Hoskisson & Krohm, 1974; Koskinen, Blum, Bisson, Phillips, Creamer, & Baker, 2000; Rasinski, 1990). The strategy involves reading along while listening to an audio recording of a fluent model (Evans, 1997).

The goal of this study was to compare the efficacy of audio-assisted reading with digital audiobooks against the traditional practice of sustained silent reading in terms of reading fluency rates and reading attitude scores with upper elementary students with reading disabilities. Participants in the control group selected literature and read silently for 20-30 minute sessions, four to five times per week. Treatment group participants selected literature from a list of audiobooks and engaged in audio-assisted reading with digital audiobooks downloaded on MP3 players for the same amount of time over an eight-week implementation period.

Students were assessed using the Dynamic Indicators of Basic Early Literacy Skills oral reading fluency measurements and the Elementary Reading Attitude Survey at the onset and conclusion of the study. The results showed that while both

groups demonstrated growth in reading fluency, the growth of the treatment group far outweighed that of the control group. There was no significant difference in reading attitude scores. Consequently, teachers can promote increased growth in reading fluency when audio-assisted reading with digital audiobooks is implemented in the place of sustained silent reading for upper elementary students with reading disabilities.

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Kelli J. Esteves

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CHAPTER I

INTRODUCTION

The purpose of this chapter is to identify the research problem, provide an overview of the study, state the rationale for the study, and present research questions and assumptions. The chapter is concluded with an outline of the structure of this dissertation.

Statement of the Research Problem

Given that approximately 80% of students with learning disabilities struggle with reading (Shaywitz, 2003) and students with Attention Deficit Hyperactivity Disorder (ADHD) frequently demonstrate concomitant reading disorders (Goldston, Walsh, Arnold, Reboussin, Daniel, Erkanli, Nutter, Hickman, Palmes, Snider, & Wood, 2007; Samuelson, Lundberg, & Herkner, 2004), reading instructional time must be used in the most efficient manner possible for students with reading disabilities. Although sustained silent reading (SSR) is a common classroom practice for elementary age students (Pilgreen, 2000; Yoon, 2002), its utility in improving reading has been called into question (National Reading Panel, 2000). The National Reading Panel (2000) reported a need for more research in order to prove its value in a student's reading program. The panel cautioned that SSR did not appear effective for struggling readers. Moreover, the panel found the practice did not improve the overall attitude students have about reading.

Overview of the Study

This study involved fourth and fifth grade elementary students with reading disabilities. All participants had documented learning disabilities or other health impairments. Participants with the educational diagnosis of other health impairment were given the label as a result of a medical diagnosis of ADHD. All students had

individualized education program (IEP) goals that pertained to reading. Students in the treatment group were provided with MP3 players downloaded with audiobooks based on student interest and reading level. Students were also given the accompanying hard copy of the book and a flat wooden stick to serve as a tracking tool. Students engaged in audio-assisted reading, the practice of listening to a fluent reader while following along with the text, during their classroom silent reading time for and eight week implementation period, a minimum of four times per week for at least 20 minutes per session. Students in the control group engaged in the traditional practice of SSR for the same amount of time over the same eight-week period.

Casbergue and Harris (1996) found that audio-assisted reading exposes students to more literature and listening to books read by enthusiastic and expressive readers made reading more pleasurable. Furthermore, audio-assisted reading methodology has been used as an effective instructional intervention for students with learning disabilities (Carbo, 1978; Gilbert, Williams, & McLaughlin, 1996) and with struggling readers (Chomsky, 1976; Hollingsworth, 1978; Hoskisson & Krohm, 1974; Koskinen, Blum, Bisson, Phillips, Creamer, & Baker, 2000; Rasinski, 1990). Researchers have also cited improvements in reading attitudes due to the self-confidence gained by marked improvements in reading fluency and comprehension, the ability to read grade-level text, and the enjoyment of reading high-interest material (Gilbert, Williams, & McLaughlin, 1996; Koskinen, Blum, Bisson, & Phillips, 1999).

In this study, audio-assisted reading with digital audiobooks was compared with the widely accepted practice of sustained silent reading (Pilgreen, 2000; Yoon, 2002) which does not employ the theoretical framework of Vygotsky's social cultural theory.

Social cultural theorists purport that learning occurs when a person who is more proficient in the skill being addressed or more knowledgeable on a topic acts as an instructional scaffold. The interaction between the learner and the person acting as the scaffold results in a higher level of cognition (Bender, 1999; Vygotsky, 1978). The theory has been extended to include interaction with technology (Hung & Nichani, 2002; McLoughlin & Oliver, 1998).

Ultimately, the goal of this research was to provide insight into whether or not audio-assisted reading with digital audiobooks has an impact on reading attitude and fluency for students with disabilities who consequently struggle with reading. Those students who were provided with MP3 players with digital audiobooks were compared with students who engaged in sustained silent reading without the use of audio-assisted reading.

Rationale for the Study

The audio-assisted reading method was developed as a result of research on the increase of reading fluency rates when students read along while listening to an adult reader in a process termed the Neurological Impress Method (Flood, Lapp, & Fisher, 2005; Heckelman, 1969; LaBerge & Samuels, 1974, Langford, Slade, & Barnett, 1974). Later, the concept of reading along with a fluent model was extended to partnering dysfluent readers with fluent peers (Koskinen & Blum, 1986; Eldredge, 1990; Fuchs, Fuchs, Yen, McMaster, Svenson, Yang, Young, Morgan, Gilbert, Jaspers, Jernigan, Yoon, & King, 2001). All of the aforementioned assisted reading strategies, including audio-assisted reading with digital audiobooks, are rooted in Lev Vygotsky's social-cultural theory (1978) in that the fluent reader acts as an instructional scaffold to the

struggling reader. Instructional scaffolding, a practice proven effective with students with learning disabilities (Pressley, Hogan, Wharton-MacDonald, Mistretta, & Ettenberger, 1996; Swanson 1999), is characterized by providing assistance through modeling competency of a task and fading support as the student's own competency increases (Koskinen, Blum, Bisson, Phillips, Creamer, & Baker, 2000; Vygotsky, 1978). However, in many classrooms, such scaffolding does not take place (Pressley, et al., 1996). Audio-assisted reading with digital audiobooks provides a scaffold between the fluent model and the struggling reader.

Furthermore, in a position statement by the International Reading Association (1999) it is acknowledged that:

> There is no single method or single combination of methods that can successfully teach all children to read. Therefore, teachers must have a strong knowledge of multiple methods for teaching reading and a strong knowledge of the children in their care so they can create the appropriate balance of methods needed for the children they teach. (p. 2)

Teachers are routinely called to differentiate their instruction by providing unique and individualized instruction based on students' readiness levels, learning profiles, and individual interests (Tomlinson, 2006). Any part of the school day that offers only one approach to meet an educational goal, such as the traditional implementation of sustained silent reading, provides potential for an increase in differentiation.

Research Questions

This investigation was conducted to determine if the practice of audio-assisted reading with digital audiobooks and MP3 players was more effective than the practice of sustained silent reading without the use of audio-assisted reading for fourth and fifth grade students with reading disabilities in increasing reading attitude and reading fluency as indicated by the number of words correctly read per minute.

The four null hypotheses corresponding to the above research question are as follows:

H_{01} After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, there will be no significant difference between the reading fluency rates of the treatment and control groups, as reflected in the pretest and posttest fluency scores.

H_{02} After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, there will be no significant difference between the overall reading attitude scores of the treatment and control groups, as reflected in the pretest and posttest attitude scores.

H_{03} After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, there will be no significant difference between the recreational reading attitude scores of the treatment and control groups, as reflected in the pretest and posttest attitude scores.

H_{04} After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, there will be no significant

difference between the academic reading attitude scores of the treatment and control groups, as reflected in the pretest and posttest attitude scores.

Reading Disabilities

This study included participants with identified learning disabilities and other health impairments who had IEP goals in the areas of reading comprehension, reading fluency, and/or reading decoding. Students were qualified as learning disabled under the 2004 Individuals with Disabilities Education Act definition of a learning disability. This definition is as follows:

> "Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual impairments, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems that are primarily the result of a visual, hearing, or motor impairment, of a cognitive impairment, of an emotional impairment, of autism spectrum disorder, or of environmental, cultural, or economic disadvantage. (R340.17, 2004)

Students identified as "otherwise health impaired" with IEP goals in the area of reading were also included in this study. The administrative rules from the Department of Education, Special Education Programs and Services (2007) define otherwise health impaired as such:

"Other health impairment" means having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, which results in limited alertness with respect to the educational environment and to which both of the following provisions apply:

(a) Is due to chronic or acute health problems such as any of the following:

(i) Asthma.

(ii) Attention deficit disorder.

(iii) Attention deficit hyperactivity disorder.

(iv) Diabetes.

(v) Epilepsy.

(vi) A heart condition.

(vii) Hemophilia.

(viii) Lead poisoning.

(ix) Leukemia.

(x) Nephritis.

(xi) Rheumatic fever.

(xii) Sickle cell anemia.

(b) The impairment adversely affects a student's educational performance. (R 340.1709a, 2005)

Based on teacher reports, all of the students with this label were identified as otherwise health impaired due to a medical diagnosis of ADHD. As a result, for the purpose of the present study a student with a reading disability is defined as a person with an identified

learning disability or other health impairment who has IEP goals in the area of reading. Upper elementary students are defined as students who are either in the fourth or fifth grade.

Assumptions

In order to answer the above research question and corresponding null hypotheses, the study assumed:

1. The investigator measured recreational, academic, and overall reading attitude in quantifiable terms.
2. Students demonstrated their attitude about reading by answering questions on the assessment tool.
3. The investigator measured reading fluency rates in quantifiable terms.
4. Students in the treatment group followed along with the text while listening to the digital audiobook.
5. Students in the treatment and control group where allowed a minimum of 20 minutes per day, four days per week to participate in audio-assisted reading with digital audiobooks and SSR, respectively.

Significance of the Study

Despite a thorough body of research on the effectiveness of audio-assisted reading with struggling readers, few studies have investigated whether audio-assisted methods, specifically, have desirable effects on students who have documented reading disabilities. The majority of findings on readers' attitudes and motivation when using audio-assisted reading have been anecdotal in nature with one noteworthy exception (Koskinen, et al., 2000). As a result, several issues remain for investigation into the use of audio-assisted

reading in classrooms. Questions concerning the effects the method might have with highly engaging fluent models now available in mainstream media have not been fully addressed. Use of updated digital technology has not been addressed. Research must be done to investigate whether the findings of pioneers like Carbo, Chomsky, and Hollingsworth can be further broadened to the population of students with reading disabilities. Furthermore, research needs to be conducted to investigate if audio-assisted reading would yield a greater increase in reading fluency rates and reading attitude than the standard practice of SSR. This study serves to address the current gap in research, promote differentiated instruction, and add to the knowledge bank of effective reading instructional methods.

Dissertation Structure

This study is divided into five chapters. A review of pertinent literature regarding assisted reading with students with reading disabilities and struggling readers as an effective means for fostering reading development is explained in Chapter II. The study's experimental design, recruitment and selection process, participants, setting, measurement instruments, procedures, and data analysis are detailed in Chapter III. The results of the investigation are reported in Chapter IV. Chapter V offers a discussion of the findings, draws conclusions related to the questions investigated, provides implications for practice, and presents limitations and recommendations for future research.

CHAPTER II

LITERATURE REVIEW

Introduction

The goal of this study was to compare the efficacy of audio-assisted reading with digital audiobooks and the traditional practice of sustained silent reading (SSR) in promoting reading fluency and reading attitude with upper elementary students with reading disabilities. Chapter II summarizes the history of assisted reading from its genesis in 1969 (Kuhn & Stahl, 2003) to the recent innovations with audio-assisted reading and modern technology. Theoretical underpinnings of the practice are addressed, as well as the impact of audio-assisted reading on reading fluency and attitude. Research on the effectiveness of SSR is examined. Key studies in the utility of assisted reading for students who are struggling readers are reviewed.

Background

Assisted reading involves having a student read along with text as the text is being read by a fluent model (Kuhn & Stahl, 2003). The process enables readers to use multiple avenues of sensory input simultaneously to acquire and process information. It can be accomplished by choral reading either aloud or silently with a teacher, other adult, or fluent peers. Later variants incorporate use of audio recordings of text as the instructional scaffold (Mercer & Mercer, 2005). This method is subsequently referred to as audio-assisted reading. Computerized applications for fluency instruction, such as screen readers, are not covered in this review. While these methods do offer scaffolded assistance with rate and accuracy, appropriate prosody is not modeled as of the present date.

Audio-assisted reading has been used as an effective instructional intervention for students with learning disabilities (Carbo, 1978; Gilbert, Williams, & McLaughlin, 1996) and with struggling readers (Chomsky, 1976; Hollingsworth, 1978; Hoskisson & Krohm, 1974; Koskinen, Blum, Bisson, Phillips, Creamer, & Baker, 2000; Rasinski, 1990). A summary of these studies is offered in Table 1. The strategy involves having students read along while listening to an audio recording of a fluent model (Evans, 1997). The method was developed as result of research on the increase of reading fluency rates when students read along while listening to an adult reader in a process termed the Neurological Impress Method (Flood, Lapp, & Fisher, 2005; Heckelman, 1969; LaBerge & Samuels, 1974, Langford, Slade, & Barnett, 1974). Later, the concept of reading along with a fluent model was extended to partnering dysfluent readers with fluent peers (Koskinen & Blum, 1986; Eldredge, 1990; Fuchs, Fuchs, Yen, McMaster, Svenson, Yang, Young, Morgan, Gilbert, Jaspers, Jernigan, Yoon, & King, 2001). The practice of reading with fluent adults and peers is subsequently referred to as choral reading in dyads. It is important to understand the various types of assisted reading methods that preceded audio-assisted reading as they play a critical role in the evolution of the methodology.

All assisted reading strategies are rooted in Lev Vygotsky's social-cultural theory (1978) in that the fluent reader acts as an instructional scaffold to the struggling reader. Instructional scaffolding is an instructional method that has been proven to be successful with students with learning disabilities (Pressley, Hogan, Wharton-MacDonald, Mistretta, & Ettenberger, 1996; Swanson 1999). However, in many classrooms, such scaffolding does not take place (Pressley, et al., 1996). In this review, the assisted reading methods

are compared with the widely accepted practice of SSR (Yoon, 2002) which does not employ the theoretical framework of Vygotsky.

In attempt to lend cohesion to this review of literature, two terms will be used to describe the majority of participants in the studies presented: students with learning disabilities and struggling readers. Students with learning disabilities are described in the subsequent section. Struggling readers are operationally defined as students who are reading at least one grade level below their current grade placement on measures of overall reading achievement, reading fluency, or comprehension.

Defining and Characterizing Students with Reading Disabilities

Learning Disabilities in the Area of Reading

Defining a learning disability is a somewhat arduous task given the numerous conceptualizations over the field's relatively brief history. Various state-approved definitions, while all based on federal law, are not consistent and change when federal law is amended (Bender, 1999b; Vaughn, Linan-Thompson, Hickman, 2003). For example, the 2004 amendments to the Individuals with Disabilities Education Act (IDEA) define a specific learning disability as a "disorder in one of more the basic psychological processes involved in understand or in using language, spoken or written, which may manifest itself the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations" (Section 602(30)). The regulatory criterion for determining a learning disability using a severe discrepancy between achievement and intellectual ability was changed from obligatory to optional in 2004. School districts currently have flexibility for determining if a student has a learning disability which includes a process which determines if he or she responds to "scientific, research-based interventions"

(Section 614(b)(6)(B)). While the federal guidelines aid in the understanding of a learning disability, for the purpose of this review a widely recognized definition that was proposed and adopted by the National Joint Committee on Learning Disabilities (NJCLD) in 1987 is used to define a learning disability. The NJCLD maintains:

> Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, serious emotional disturbance) or with extrinsic influences (such as cultural differences, insufficient, or inappropriate instruction) they are not the result of those conditions or influences. (Bender, 1999b, p. 6)

To further clarify the concept of a learning disability, Hallahan, Lloyd, Kauffman, Weiss, and Martinez (2005) outline some characteristics of students with learning disabilities generally accepted among professionals in the field: (a) students tend to demonstrate poor attention and minimally engage in learning tasks; (b) students exhibit a wider variety of skills which results in stronger functioning in one area and weaker functioning in others; (c) students display a lower self-concept, more anxiety revolving around school tasks,

and increased occurrence of depression; and (d) students tend to have reading and language deficits.

Extensive research has shown students with learning disabilities to have numerous difficulties in reading (Bender, 1999a; Bos & Vaughn, 2002; Jennings, Caldwell, & Lerner, 2007; Justice, 2006; Mercer & Mercer, 2005; Tiu, Thompson, & Lewis, 2003). Problems with reading are considered to be one of the major characteristics of the population (Hallahan, et al., 2005; Mastropieri, Leinart, & Scruggs, 1999). It is estimated that 80% of students with learning disabilities struggle with reading (Tiu, Thompson, & Lewis, 2003). Research indicates that students with learning disabilities in the area of reading have significant difficulty developing reading fluency and tend to carry on as slow readers into adulthood (Bos & Vaughn, 2002; Mastropieri, Leinart, & Scruggs, 1999; Rasinski, Padak, McKeon, Wilfong, Friedauer, & Helm, 2005; Samuels & Farstrup, 2006).

Attention Deficit Hyperactivity Disorder and Reading Disabilities

It is well-documented in professional literature that Attention Deficit Hyperactivity Disorder (ADHD) and reading disabilities co-occur at a significantly high rate, ranging from 25% to 40% of all cases (Goldston, Walsh, Arnold, Reboussin, Daniel, Erkanli, Nutter, Hickman, Palmes, Snider, & Wood, 2007; Samuelson, Lundberg, & Herkner, 2004). Given that students with ADHD present symptoms such as inattention, hyperactivity, and impulsivity, it is not surprising that poor academic performance is among the most prominent features of ADHD (Frazier, Youngstrom, Glutting, & Watkins, 2007). The alarming co-morbidity rates and the lack of known interventions that help student with ADHD and reading disabilities (Goldston, et. al, 2007) highlight the

importance of research on what works in terms of improving reading achievement with ADHD.

Reading Fluency

Recently, the National Reading Panel (2000) responded to a request from Congress to assess existing research on best practices in reading instruction. The Panel examined over 100,000 research articles, synthesized the information, and issued a publication titled *Put Reading First* (2001). The results determined the most effective reading programs included instruction in phonemic awareness, phonics, fluency, vocabulary, and comprehension. Fluency acquisition was described as a necessary skill in the transition from learning to read to the ability to read for learning.

Reading fluency is defined as the ability to read text quickly, accurately, and with prosody (i.e., reading with proper phrasing and expression) (Bos & Vaughn, 2002). Lack of fluency in reading is evident by labored and disconnected oral reading. The reader struggles to decode words, which in turn, makes comprehension of the material next to impossible (Hudson, Lane, & Pullen, 2005; Rasinski, 2004). Although problems with decoding and comprehension are often addressed, dysfluent reading remains one of the most common characteristics of problem readers in general (Mastropieri, Leinart, & Scruggs, 1999; Rasinski, et. al., 2005; Samuels & Farstrup, 2006).

As previously stated, it is well known that many students with documented learning disabilities struggle with reading (Bender, 1999a; Hallahan, et al., 2005; Jennings, Caldwell, & Lerner, 2007; Justice, 2006; Mercer & Mercer, 2005; Tiu, Thompson, & Lewis, 2003) and specifically with reading fluency (Bos & Vaughn, 2002; Mastropieri, Leinart, & Scruggs, 1999; Mercer & Mercer, 2005; Rasinski, 2004). This is

especially troubling as researchers agree that reading fluency is a defining characteristic of a proficient reader (Hudson, Lane, & Pullen, 2005; Mastropieri, Leinart, & Scruggs, 1999; Mercer & Mercer, 2005). Clearly, all students who have difficulty with reading need opportunities for intense and focused practice. Readers who are not fluent often need instruction in how to read fluently in order for the skill to be mastered (Rasinski, et. al., 2005). Implementing instructional interventions in the area of reading fluency appears to be a promising for students with disabilities (Mercer & Mercer, 2005).

Linking Fluency and Comprehension

The ultimate goal of reading is to construct meaning from the text; therefore, it is important to understand the role fluency plays in comprehension. Researchers have found a strong correlation between fluency and comprehension (Allington, 1983; Hudson, Lane, & Pullen, 2005; Mercer & Mercer, 2005; Rasinski, 2000; Samuels & Farstrup, 2006). In a classic article, LaBerge and Samuels (1974) suggested that the processing space in the working memory needed for comprehension is limited when a reader's attention capacity is devoted to word identification. When the reader is able to identify words with automaticity, space is freed up for comprehension to occur. Prior to the work of LaBerge and Samuels (1974), the major school of thought was that reading fluency developed naturally as proficiency in word recognition improved. In turn, instruction or intervention in fluency was largely viewed as unnecessary (Fuchs, et al., 2001).

Need for Instructional Interventions in Reading Fluency

Even though understanding text is the terminal goal, dysfluency must be remediated before comprehension can take place (LaBerge & Samuels, 1974; Mathes, Simmons, & Davis, 1992; Samuels & Farstrup, 2006). Instructional interventions are

defined as "approaches designed to increase student engagement in learning and to ameliorate learning difficulties" (Linan-Thompson, 2005, p. 125). Mercer and Mercer (2005) report that students with learning difficulties in the area of reading benefit from instructional interventions in reading fluency. Since readers who struggle take longer and require more exposure to automatically recognize and recall words than do proficient readers (Bos & Vaughn, 2002), fluency instruction must provide many opportunities for practice. Furthermore, the IDEA amendments of 2004 support previous legislation which requires students with disabilities be given access to the general education curriculum. The law mandates that accommodations and modifications be made so students with documented disabilities are able to progress and be involved in the same curricular content as students without disabilities (Linan-Thompson, 2005). When a student is struggling with reading fluency, instructional interventions must be made in accordance with "best practice" in reading instruction and the law.

Importance of Attitudes about Reading

There is little doubt among teachers and researchers that reading attitude is essential to becoming a competent and lifelong reader (Fitzgibbons, 2004; Kazelskis, Thames, Reeves, Flynn, Taylor, Beard, & Turnbo, 2005). Alexander and Filler (1975) defined reading attitude as the feelings one has toward reading that causes him or her to either move toward or avoid a reading situation. Studies have consistently shown that students who have positive attitudes about reading spend more time reading than students who have poor attitudes (Edmunds & Tancock, 2003; Guthrie, Wigfield, Hoa, Tonks, & Perencevich, 2006). Oftentimes a healthy reading attitude is difficult to attain for students with reading disabilities (Polychroni, Koukoura, & Anagnostou, 2006). Research has

shown that students who struggle with reading do not read for enjoyment and perceive reading less as a function of personal development as compared to their peers (Polychroni, Koukoura, & Anagnostou, 2006). Based on the research, it appears that teachers should be proactive and intervene when reading attitude begins to break down.

Effective Reading Instruction and Intervention

Vygotsky's Social-Cultural Theory

Porter and Lacey (2005) refer to educational theory as "the articulation of a framework of beliefs that underpin practice" (p. 21). The instructional practice of audio-assisted reading is consistent with Vygotsky's social-cultural theory of learning and development (1978). Social-cultural theorists contend that learning must be "scaffolded" or supported by a person more proficient in the particular skill being learned (Bender, 1999b). Later theorists have extended the role of the scaffold beyond personal assistance to that of artifacts such as books, technological tools, and scientific equipment (Hung & Nichani, 2002; McLoughlin & Oliver, 1998). In the case of assisted reading, the fluent model, whether it is a teacher, peer, or audio recording, takes on the role of the scaffold.

A second critical aspect of Vygotsky's theory is the idea that cognitive development is limited to a certain span, which is termed the zone of proximal development (ZPD). Vygotsky (1978) defined ZPD as the gap between a child's actual developmental level and his or her potential developmental level in which individuals can navigate with the help of instructional scaffolds. In relating ZPD to assisted reading, text would be read by the fluent model just above the student's independent reading level. Instructional scaffolding that occurs too far above the student's level would not be effective (Pressley, et al., 1996).

When applying instructional scaffolding within a student's zone of proximal development to reading fluency instruction, instructional methods take on a holistic approach to reading instruction and intervention rather than direct instruction in reading skills, such as phonics. Holistic instruction in reading is characterized by the belief that words should be learned in context and without being broken down into segments (Bender 1999); whereas direct instruction in phonics involves teaching that a word is not a hieroglyph of symbols, but the letters represent a combination of sounds that can be decoded (Johnson & Bender, 1999). The research debate on the holistic approach to reading instruction and direct instruction in phonics has settled more on the side of direct instruction for students who struggle with reading; however, there is an agreement that a balanced approach is needed when teaching students all students, including those with learning disabilities (Bender, 1999; Mercer & Mercer, 2005; Pressley, Roehrig, Bogner, Raphael, & Dolezal, 2002).

To further illustrate, Rankin-Erickson and Pressley (2000) surveyed 31 special education teachers who were nominated as effective teachers of literacy. The goal was to examine their instructional practices in reading. Results showed that the teachers combined direct instruction and holistic approaches. They increased the intensity of instruction according to the individualized needs of students, thus revealing that effective reading instruction varies based on the specific learning style of the reader. Mercer and Mercer (2005) explained "whole language and direct instruction both have a place in reading instruction and their respective application are a function of students' needs and not a dogmatic allegiance to a one-size-fits-all reading paradigm stance" (p. 296).

Sustained Silent Reading

Reading fluency theorists allege the best way to facilitate the shift from deliberate decoding to recognizing the whole word is through extensive practice (Kuhn & Stahl, 2003; Rasinski, 2003). SSR is designed to provide readers with that extensive practice (Pilgreen, 2000). It is not intended to serve as the primary component of a student's reading program. The three key components of SSR are self-selection of text, role modeling, and non-accountability. Students are given a fixed amount of time in which they are to self-select material to read for information or pleasure (Pilgreen, 2000; Yoon, 2002).

As previously stated, The National Reading Panel (2000) reported that more research needed to be conducted on SSR in order to prove its value in a comprehensive reading program. This was primarily a result of the lack of findings that SSR was of benefit to struggling readers. Furthermore, questions remained regarding the previous claims that SSR improves reading attitude (Pilgreen, 2000).

Dwyer and Reed (1989) conducted a study on the effects of SSR on attitudes toward reading with 30 fourth and fifth grade students. In this study, the experimental group demonstrated a drop in reading attitude scores by the conclusion of the study. There was no statistically significant difference in the scores for the control group. Thus, application of SSR appeared to have negative effects on reading attitude. An additional noteworthy finding was that boys responded more negatively in terms of reading attitude than did the girls in the study (Dwyer & Reed, 1989).

Nonwieler (2001) investigated various methods of SSR and their effects on the reading attitudes of sixth, seventh, and eighth grade students who were learning disabled.

The researcher studied levels of motivation and enjoyment by surveying and interviewing students. Results showed that self-selecting books, book talks by the teacher, partner reading, external rewards such as candy and stickers, and listening to audiobooks were identified by students as motivating and enjoyable.

A documented benefit of SSR is students have increased self-determination when they are able to select their own reading material (Yoon, 2002). In fact, readers who felt ownership of what they read tended to persist for longer periods of time, paid closer attention to the text, and had a better attitude (Rehder, 1980). The use of authentic children's literature seemed to interest students and encouraged them to read more (Flood, Lapp, & Fisher, 2005). Nevertheless, it seems as though teachers can differentiate their instruction for students who struggle with reading to include the beneficial components of SSR and modify the practice so the needs of all students are being met.

Assisted Reading Methods

The foregoing discussion suggests teachers can make better use of time devoted to SSR. Flood, Lapp, and Fisher (2005) noted that assisted reading methods could easily be implemented during either the classroom's SSR or independent reading time. Moreover, it has been documented that employing assisted reading strategies with certain students may lead to more desirable outcomes (Carbo, 1997; Fuchs & Fuchs, 2005).

Assisted reading strategies provide learners with a model of fluent reading (Kuhn & Stahl, 2003; Mercer & Mercer, 2005). Like SSR, it is not designed to serve as the primary component of a student's reading program. Other than modeling fluent reading, advantages to the approach include: (a) increased access to literature at students' interest levels; (b) listening aids in developing a sense of story; and (c) an increase in vocabulary

(Mercer & Mercer, 2005). Some researchers explain the use of these methods is so powerful since they act as a scaffold, allowing students to read at their instructional level (Beers, 1998; Hall, 1991). The overall goal of assisted reading is similar to the goal of SSR in that students are exposed to literature; however, assisted reading approaches draw on the social-cultural theoretical model whereas SSR does not.

Dyad Choral Reading with the Neurological Impress Method

The Neurological Impress Method (NIM), developed by Heckelman (1969), was initially designed to "impress the words directly into the student's brain" (Kuhn & Stahl, 2003, p. 13) through the practice of reading in unison. The method involves having the fluent model sit behind the student and reading directly into the student's ear as he or she reads along. The student is responsible for tracking the text with his or her finger. Text is selected at a level slightly below the student's instructional reading level (Langford, Slade, & Barnett, 1974). The goal of NIM is for the student to gain automaticity in reading fluency by exposing him or her to as much text as possible without fatiguing the student (Mercer & Mercer, 2005). It is intended to be used with students who spend too much time on decoding (Heckelman, 1969). The teacher, or fluent reader, acts as the instructional scaffold.

Heckelman (1969) implemented his method with 24 students in grades seven to 10 who were reading at least three years below grade level (see Table 1). All students were reported to have a minimum standard score of 90 on the performance portion of the Wechsler Intelligence Scale for Children. Students employed NIM, as explained previously, for a period of six weeks, five days a week, for approximately 15 minutes per session. The mean gain was 1.9 grade levels, with a range of .8 to 5.9, in the area of

reading comprehension. Reading fluency was not measured. A control group was not used, but gains made by the participants were statistically significant. The researcher observed an improvement in reading attitude among the students. Due to the impressive results of Heckelman's study, his research has been replicated numerous times. Mixed results have been reported; however, the research on attitudinal results have largely been positive (Feazell, 2004; Flood, Lapp, & Fisher, 2005).

Recent research has focused on the utility of NIM in increasing reading fluency rates as opposed to comprehension rates. Flood, Lapp, and Fisher (2005) intended to redirect interest in Heckelman's method with the publication of two studies. The first focused on the effect of NIM on increasing silent reading fluency, oral reading fluency, and comprehension. Twenty students in the third through sixth grade engaged in NIM for 10 minutes per day, four times per week for five weeks. They were paired with volunteer tutors. Authentic children's literature was used. Oral reading fluency post-test results revealed a mean gain of 15.3 words per minute (from 96.7 to 112) after only 3.3 hours of NIM training. Correspondingly, students made an increase of 22 words per minute (from 132 to 154) on silent reading fluency measures and answered 1.3 more comprehension questions correctly (from 3.2 to 4.5).

Flood, Lapp, and Fisher's second study (2005) used a quantitative and qualitative blended approach. Similar to the first study, statistically significant gains were found on the three measures: silent reading fluency, oral reading fluency, and comprehension. Qualitative findings revealed prosodic modeling aided comprehension as indicated by follow up conversations between students and tutors.

Data from Heckelman's study (1969) and from other researchers (Flood, Lapp, & Fisher, 2005) who have followed in his footsteps suggest assisted reading with NIM to be an effective approach for upper elementary and secondary students. The method takes a relatively short period of time to yield positive results. However, a potential drawback of NIM is the lack of feasibility due to the time necessary for one-on-one assistance from a teacher (Mathes, Simmons, & Davis, 1992).

Dyad Choral Reading with Peers

The academic diversity found in a single classroom can be seen as an instructional challenge daunting to even the best of teachers. Levels of diversity become more profound after the third grade when successful readers make the shift from learning to read to accessing information by reading. The majority of students tend to make huge gains as they being to engage in reading with increased frequency, leaving struggling readers behind (Mercer & Mercer, 2005). Some teachers capitalize on this situation by pairing low-achieving students with high-achievers in choral reading dyads. The practice of using students to support each other for the purpose of building fluency has taken on various titles (Bos & Vaughn, 2002) but the underlying concepts are the same. Put simply, provide a fluent model as an instructional scaffold and both students can meaningfully engage in reading.

Effects of repeated reading in choral reading dyads were the focus of a study conducted by Koskinen and Blum (1986). Third-grade struggling readers worked in pairs to self-select text and read along while listening to their fluent partner. Students evaluated themselves and their partners after the session. The treatment group significantly outperformed the control group.

Eldredge (1990) examined the effect of choral reading dyads on rates of comprehension, vocabulary, and fluency. Struggling readers were paired with fluent peers. The treatment group of 18 third-grade students self-selected books and read in unison during 15-minute sessions. The control group engaged in unassisted reading instruction. After a period of eight weeks, 10 hours of treatment, posttest results showed 0.7 years of growth for the treatment group. This is impressive when comparing it to the control group where only 0.1 year of growth was achieved.

Impact of Audio-assisted Reading on Fluency and Comprehension

Following along while listening to a tape recording of a fluent reader, a recording on a CD, and, most recently, a digital recording played on an MP3 player all fall under the category of audio-assisted reading with audio recordings. As previously described, numerous studies have proven the success of assisted reading in improving the accuracy, rate, and prosody of struggling readers. However, Hollingsworth (1970) noted the amount of time necessary for successful implementation of dyad choral reading strategies given the need for one-on-one support from a fluent reader. Although the one-on-one approach is feasible in a tutoring or pullout approach, it is not a practical approach for facilitating inclusion with general education peers (Mathes, Simmons, & Davis, 1992). In response, Hollingsworth redesigned the previously used assisted reading models so the method could be used by numerous students simultaneously by introducing an audio recording of a fluent reader (Flood, Lapp, & Fisher, 2005; Hollingsworth, 1970, Kuhn & Stahl, 2003) with technology acting as the instructional scaffold.

In his initial study, Hollingsworth selected six fourth graders who were reading at grade level. He compared the treatment group to a control group of readers who were also

reading at grade level. Participants in the treatment group listened to audio recordings of a fluent model reading text at various grade levels. A teacher monitored the students to ensure they were actively engaged. After 30 treatment sessions, results showed no significant improvements between students who read while listening to an audio recording and those who did not (Hollingsworth, 1970). However, it must be noted that the students in the study were not characterized as dysfluent readers.

In 1978, Hollingsworth replicated his study with a different sample of students. He studied whether the approach would demonstrate effectiveness with struggling readers. This time he included 20 fourth through sixth grade students who were reading below grade level. The treatment group of 10 students engaged in audio-assisted reading for 62 sessions. Results showed a significant improvement by the treatment group on a standardized comprehension test with the increase in number of treatment sessions and new sample of students. In fact, students using the audio-assisted reading method made over one year of growth over the course of nine months, while the control group made only .04 year of growth over the same period of time.

Chomsky (1976) conducted a similar study with third grade students. Five participants were identified as struggling readers and had been exposed to extensive instruction in decoding prior to the implementation of the treatment. Each child was reading one to two years below grade level and purported a strong dislike for reading. The study was designed to allow students to select their own commercially recorded books and monitor their own pace. They were told to listen to the entire book or chapter, and then select a portion of the text to read repeatedly. A research assistant worked one-on-one with each child on further analysis of the selection by engaging in comprehension

activities on a weekly basis. The grade levels of the selections ranged from second to fifth grade. Results showed six months gain in reading fluency and 7.5 months gain in comprehension over a 10-month span of time (Chomsky, 1976). While it appears insufficient gain was made, it must be noted that the improvement made was more than the students had achieved in previous years. According to parents and teachers of the participants, Chomsky's method of exposing struggling readers to significant amounts of text, letting students choose their own books, and making the print accessible led to a more positive view of reading as evident by an increase in independent reading and the willingness to engage in writing activities (Chomsky, 1976).

Carbo (1978) designed her audio-assisted approach in direct response to Heckelman's NIM and the work of Chomsky (1976). She investigated her method with eight students with learning disabilities who were reading two to four years below grade level. In her report, Carbo acknowledged the negative impact Heckelman's method may have had on the self-concept of students due to the embarrassment of having an instructor right over their shoulder. She further individualized the approach by instructing students to run a finger under words as they listened and read. The method required students to read the text while reinforcing the students both aurally and tacitly. Each page of text was read at a slow pace with prosody maintained by a fluent model and cued so the chance a student would lose his or her place was minimized. All material was within one year of the students' reading levels. Students listened while reading the individualized selections over a three month time period. The level of monitoring by the teacher was not reported. Results ranged from four to 15 months gain, with an average of eight months, in word recognition after the treatment period. In summary, Carbo found that when books were

recorded at a slow pace with prosody maintained, readers were able to successfully follow along with text. She alluded to the importance of an approach that was multi-sensory, high-interest, and fail-safe. Her method resulted in significant reading fluency gains for students with learning disabilities.

Gilbert, Williams, and McLaughlin (1996) designed a study on the effects of audio-assisted reading for three first through second grade students with learning disabilities. Students were diagnosed as learning disabled with standards used in Canada. However, these criteria are consistent with the NJCLD description used in this review to operationally define a learning disability. The researchers used recorded passages of a typical basal series written at grade level. Students read along while listening to the fluent model for 45 minutes per session. Neither frequency nor time span of implementation were specified; however, graphs indicate a treatment period of 40 to 45 days. Results showed a mean gain of 29 words per minute, ranging from 26 to 32. The work of Gilbert, Williams, and McLaughlin extended Carbo's findings to younger students with learning disabilities.

Impact of Audio-assisted Reading on Reading Attitude

Koskinen (2000) and her colleagues conducted a large study (N = 87) which looked at "the impact of book-rich classroom environments and home rereading, with and without an audio model, on reading motivation, comprehension, and fluency" (p. 23) with a group of first-grade students who spoke English as a second language and a group of native English speakers. Researchers were interested in the effects on reading achievement and motivation. The treatment group participated in small-group shared reading in a classroom described as "book-rich" (p. 29). Students were encouraged to

reread the books using the audio-assisted reading method at home over the course of a seven-month period. There was no statistically significant difference between treatment and control groups on measures of oral reading fluency. Empirical findings did reveal students in the treatment group to have an increased interest in reading. Teachers reported students who read along with audiobooks were more likely to talk about books, take books home from school, and choose to read in their free time. Follow-up interviews with participants were quite telling. Students explained that audio-assisted reading helped them to identify words and many expressed interest in continuing to use the books and audio recordings at home in second grade.

Table 1

Studies on Audio-assisted Reading

Study	Number of Subjects	Grade of Subjects	Fluency of Subjects at Implementation	Reading Level of Text Used	Special Education Label	Fluency Results
Carbo (1978)	8	2^{nd} – 6^{th}	Below grade level	At or slightly above reading level	Learning Disabilities	Improvement over time
Chomsky (1976)	5	3^{rd}	Below grade level	Above reading level		6 months mean gain in 10 month period
Gilbert, Williams, & McLaughlin (1996)	3	1^{st}-2^{nd}	Below grade level	Not specified	Learning Disabilities	Mean gain in WCPM for all subjects
Hollingsworth (1970)	8 in treatment group	4^{th}	At grade level	Below, at, and above grade level		T=C
Hollingsworth (1978)	10 in treatment group	4^{th}-6^{th}	Below grade level	Below, at, and above grade level		T>C
Koskinen, Blum, Bisson, Phillips, Creamer, & Baker (2000)	46 in treatment group	3^{rd}	Below grade level	Below, at, or above grade level		$T=C_a$

Note: The method used for all studies was audio-assisted reading with audio recordings of text. WCPM= words correct per minute; T > C = the treatment group showed mean gains higher than the control group; T = C the difference between the treatment and control group was not statistically significant; a= statistical significance was found on impact of audio-assisted reading on reading interest.

Audio-assisted Repeated Reading

Repeated reading is one of the most well researched fluency techniques (Fuchs, et. al., 2001; Samuels & Farstrup, 2006). Support for the approach stems from the belief that fluency improves when the student practices the same passage repeatedly. Pairing audio-assisted and repeated reading provides the students with a fluent model as they read short passages a set number of times or until they read a predetermined word per minute goal. Studies comparing audio-assisted repeated reading and unassisted repeated reading have shown significant improvement in prosody among students who listened to an audiotape while reading along (Dowhower, 1987).

van der Leij (1981) studied whether audio-assisted repeated reading had an effect on the reading ability of 26 students ranging from 10 to 14 years old in terms of fluency and word recognition. He drew his sample from a "special day school for children with learning disabilities" (p. 232) in the Netherlands. All participants read below a first-grade level and had documented learning disabilities. The students followed along while listening to a fluent reader for 10 minutes every day for eight weeks. Results showed improvement in fluency rates across both the treatment and control groups with no statistically significant difference in reading fluency. The treatment group did show an increase in their ability to read words from a word list (van der Leij, 1981).

Commercially produced reading programs have been developed based on Dowhower's research (1987) and other studies that support combining audio-assisted reading and repeated reading. For example, the Read Naturally® program (Hasbrouck, Ihnot, & Rogers 1999) instructs the student to read silently along with a fluent model and monitors his or her own progress by graphing words correctly read per minute. The fluent

model reads at increasing rates for three successive readings of the same leveled passage. After listening and following along, the student practices reading the passage independently (Bos & Vaughn, 2002; Hasbrouck, Ihnot, & Rogers 1999).

Although programs like Read Naturally® are backed by empirical research (Kuhn & Stahl, 2003; Nalder, 2001; Hasbrouck, Ihnot, & Rogers 1999; National Reading Panel, 2000), the benefit of repeated reading is widely disputed among reading experts. Rasinski (1990) noted the drawbacks of audio-assisted repeated reading, even when students understood that engaging in the practice could lead to increased oral reading fluency of that passage. Such drawbacks include loss of student interest and motivation. Generally, research does not support the practice of oral rereading in improving fluency when reading attitudes are also weighed (Rasinski, 1990). Fuchs and Fuchs (2005) go on to explain that audio-assisted repeated reading is difficult to implement in classrooms due to the need for extensive adult supervision.

The Digital Audiobook Revolution

The audio-assisted reading method may be resurfacing as a viable approach to fluency instruction and as a tool to improve reading attitude due to the growth in the popularity of listening to audiobooks. What's more, Stephans (2005) stated that "no other consumer electronic device has created such an impact on popular culture in recent years as the Apple iPod" (p. 22). The educational potential of these devices appears to be quite significant. Pairing digital audiobooks with MP3 players, such as the Apple iPod, seems to have a place in today's classroom.

Furthermore, the availability and quality of audiobooks has improved dramatically over the past decade (Johnson, 2003). Audiobook publishers recruit

professional actors and trained orators who read with engaging expression. As a result, audiobook publishing has grown to a two-billion dollar industry (Varley, 2002). The digital audiobook revolution may have significant potential for improving attitudes about reading and increasing reading fluency especially since research has shown employing audio-assisted reading strategies with authentic children's literature, as opposed to basal readers, has positive results (Flood, Lapp, & Fisher, 2005).

Summary

Reading fluency has been acknowledged in research as a necessary skill for the development of a proficient reader (Rasinski, 2003; Rasinski, et. al., 2005; Samuels & Farstrup, 2006). Teachers of students who struggle with reading, particularly those with disabilities, should diligently search for effective methods for instructional intervention in reading fluency. Bos and Vaughn (2002) report that the key to becoming a skilled reader is to engage in reading for both learning and enjoyment. Yet, students who read slowly tend to lose interest in school and seldom read for pleasure (Bos & Vaughn, 2002; Moats, 2001). Although SSR increases opportunities to read, a critical step in remediating dysfluency, students need structure and support in order to increase reading fluency (Mathes, Simmons, & Davis, 1992).

The research findings of audio-assisted reading with students with learning disabilities (Carbo, 1978; Gilbert, Williams, & McLaughlin, 1996) and with nonproficient readers (Chomsky, 1976; Hollingsworth, 1978; Hoskisson & Krohm, 1974; Koskinen, Blum, Bisson, & Phillips, 1999; Rasinski, 1990) lends credence to the claim that audio-assisted reading improves overall reading fluency and; therefore, promotes comprehension for students who are described as dysfluent readers. The aforementioned

studies confirm that assisted approaches were more effective than unassisted approaches. Researchers cite improvements in reading attitudes due to the self-confidence gained by marked improvements in reading fluency and comprehension, the ability to read grade-level text, and the enjoyment of reading high-interest material. Furthermore, with the increased availability, accessibility, and quality of audiobooks, one may argue that reading while simultaneously following along to a digital audiobook might be a viable alternative to the widely used and largely unsubstantiated practice of SSR.

Research has clearly demonstrated a place for audio-assisted reading in reading programs for students with disabilities (Moats, 2001). In Becoming a Nation of Readers (U.S. Department of Education, 1985) the authors point out "the single most important activity for building the knowledge required for eventual success in reading is reading aloud to children" (p. 23). Audio-assisted reading exposes students to more literature and listening to books read by enthusiastic and expressive readers makes reading pleasurable (Casbergue & Harris, 1996). The method of audio-assisted reading enables struggling readers to self-select text, absorb storylines, attend to the plot, and listen to a fluent model (Carbo, 1997). The use of authentic children's literature seems to interest students and encourage them to read more (Flood, Lapp, & Fisher, 2005). These findings, coupled with the knowledge that audio-assisted reading is a research-proven method for improving fluency, leads one to imagine both a place for audiobooks in a student's balanced reading program and whether the practice of audio-assisted reading could mitigate the problem struggling readers have with SSR.

CHAPTER III

METHODOLOGY

Introduction

This study was designed to present the efficacy of audio-assisted reading with digital audiobooks in terms of reading fluency and reading attitude as compared to a control condition. Chapter III describes the experimental design, recruitment and selection process, population examined, setting, measurement instruments, procedures, and data analyses used in this study.

Experimental Design

A pretest, intervention, posttest design with treatment and control groups was used in this study. The participating schools were randomly assigned to the treatment or control group. This was done as an alternative to randomly assigning individual students to the treatment and control groups for practical purposes and to avoid any negative feelings students might have had knowing that their school peers were provided with an MP3 player when they were not. As a result, the study is of quasi-experimental design.

This experimental design has both benefits and drawbacks to external and internal validity. By assigning the control and treatment conditions to groups, versus individual students, the disruption to the research setting was minimal. Due to the fact that the study involved intact groups, the participants were kept in their natural setting, it allowed for a higher degree of external validity (Dimitrov & Rumrill, 1988). In theory, random assignment to groups would have equalized characteristics of the participants, thereby isolating the effects of the intervention (Dimitrov & Rumrill, 1988; Keppel & Wickens, 2004). However, descriptive statistics were conducted to compare the characteristics of the participants in each group and groups were found to be analogous across measures of

disability type, gender, and grade level. Conversely, the groups differed in terms of overall reading proficiency, as indicated by Michigan Education Assessment Program reading scores, with the control group demonstrating higher proficiency than the treatment group.

The design used is more sensitive to internal validity issues because of factors such as: (a) variation of other instructional methods used to remediate reading problems; (b) differences in teacher effectiveness; and (c) the potential for inequality of pretest measurement scores. Specific measures were taken to isolate the effects of the intervention. Schools were only recruited and entered in the selection pool if similar reading instructional methods were used. All teachers used the highly controlled (Hasbrouck, Ihnot, & Rogers, 1999) reading program, called Read Naturally®, on a daily basis. All students were educated in resource room settings, rather than self-contained special education classrooms or the inclusion setting. All of the schools were in the same school district and teachers were given similar professional development training in literacy instruction. Finally, independent-samples t-tests showed there to be no significant difference between the groups at the pretest measurement point for fluency and attitude. The specific results are further discussed in the subsequent chapter.

Recruitment and Selection

After Human Subjects Institutional Review Board approval (Appendix A), subjects were recruited. The researcher began the search for participants by contacting elementary school principals to seek permission for access to their students (Appendix B). Next, special education teachers were contacted to find out if they were interested in participating and if their students met the necessary criteria: (a) 4th or 5^{th} grade; (b)

reading disability as defined in Chapter I; and (c) participation in sustained silent reading (SSR) for a minimum of 20 minutes a day, four days a week (Appendix C). An exclusionary criterion for this study included identification as an English Language Learner. Schools were then randomly assigned to either the treatment group or the control group. The researcher wrote each school name on a slip of paper and put the slips into a cup. The researcher then drew out three slips which would make up the control group and two slips which would make up in the treatment group. Next, general education teachers were contacted to seek approval since students in the treatment group would be using the MP3 players in the general education setting for the majority of the time (Appendix D). Finally, students who attended the schools determined to be in the treatment group were sent an assent form (Appendix E) and parents were sent a consent form (Appendix F) which detailed the treatment portion of the study. Students who attended the schools determined to be in the control group were sent an assent form (Appendix G) and parents were sent a consent form (Appendix H) which detailed the control portion of the study. All students who replied to the assent and consent letters were admitted to the study (N = 21). The assessment results from one student from a treatment school were not included in the data analysis because the student did not meet the minimum time requirements for participation (N = 20). This resulted in 10 students in both the treatment and control groups.

Participants

The students came from five different schools in a Midwestern suburban school district. The subjects consisted of upper elementary students with documented reading disabilities (learning disabled and other health impairment) who had individualized

education program goals in the area of reading. Seventeen students were learning disabled and three had the label of other health impairment due to Attention Deficit Hyperactivity Disorder.

Setting

As previously mentioned, schools were randomly assigned to either the control or the treatment condition, which resulted in 10 students in the treatment group from a total of two schools and 10 students in the control group from a total of three schools. Table 2 shows a comparison of the treatment and control schools and the number of participants per school. Overall reading proficiency percentages were determined by scores on the Michigan Educational Assessment Program reading subtest (Standard and Poor's School Evaluation Services, 2005). These scores are further address in Chapter 4. According to the Standard and Poor's School Evaluation Services (2005), the overall school district enrollment of 7,796 was made up of roughly 96% White, .5% Black, 1% Hispanic, and 1% Asian/Pacific Islander, with the population of students receiving special education at 10.7%.

Measurement Instruments

The measurement instruments used in this study consisted of the Dynamic Indicators of Basic Early Literacy Skills® (DIBELS) oral reading fluency measurements and the Elementary Reading Attitude Survey (ERAS). DIBELS was used to quantify the number of words read correctly per minute. The ERAS was used to quantify recreational, academic, and overall reading attitude.

Table 2

Comparison of Control and Treatment Schools

	Control Schools			Treatment Schools	
	School A	School B	School C	School D	School E
Overall Reading Proficiency (%)	96.8	92.0	93.4	91.0	92.3
Total Enrollment	358	178	522	497	327
Economically Disadvantaged (%)	10	7	7	5	14
Subjects Per School	3	3	4	8	2

DIBELS Oral Reading Fluency Measurements

A set of three passages written at each subject's reading level, as identified by the students' special education teachers, from the DIBELS oral reading fluency measurements were used to assess the number of words correctly read per minute at baseline (Appendix I). All passages from the DIBELS assessment were calibrated for grade levels first through fifth (Good, Kaminski, Simmons, & Kame'enui, 2001). Selection of reading passages at the independent or instructional level is supported by Davidson and Myhre (2000) who found that passage difficulty at the appropriate levels are more sensitive to growth than passages at the frustration level. All of the passages were unfamiliar to the students. The scores were averaged to establish the pretest score. A set of three different DIBELS passages written at the same grade level as the materials used in the pretest phase were used to establish a posttest score. The test was administered individually.

The DIBELS oral reading fluency measurements were originally conceptualized as an extension of curriculum-based measurement reading probes (Elliot, Lee, & Tollefson, 2001). Good, Kaminski, Simmons, and Kame'enui (2001) stated that "curriculum-based measurement of oral reading fluency is a standardized procedure to assess fluency and accuracy of connected text" (p. 8). The goal of this assessment is to use brief fluency measures to identify students who are potentially at risk and to evaluate effectiveness of instruction (Good & Kaminski, 2002). For the purpose of this study, DIBELS oral reading fluency measurements were used to evaluate the effectiveness of the intervention. This is supported by Davidson and Myhre (2000) who stated that oral reading fluency measures represent an effective strategy for assessing progress in reading and serve as a barometer of the effect of intervention.

Administration of the oral reading fluency portion of DIBELS involved providing the reader with the leveled text and timing him or her for one minute. The number of words read correctly per minute served as the score. As simple as it seems, numerous reports have demonstrated a correlation between scores on the oral reading fluency measurements from DIBELS and achievement on statewide testing programs (Barger, 2003; Buck & Torgesen, 2002; Vander Meer, Lentz, & Stollar, 2005; Wilson, 2005). Furthermore, the technical adequacy of curriculum-based measurements for elementary students is well-documented in literature as reliable and valid (Davidson & Myhre, 2000; Fuchs, 1994, Fuchs & Deno, 1994, Good, Kaminski, Simmons, & Kame'enui, 2001; Shinn, Good, Knutson, & Tilly, 1992). A series of studies showed test-retest reliabilities ranging from .92 to .97, and criterion-related validity ranging from .52 to .91 (Good, Kaminski, Simmons, & Kame'enui, 2001).

Elementary Reading Attitude Survey

The ERAS (Appendix J) was used to evaluate reading attitude at the pretest and posttest stages. The ERAS is set up on a four-point Likert-type scale. More specifically, this scale uses a pictorial format depicting Garfield, the cartoon cat by Jim Davis, posed to represent the feelings of very happy, slightly happy, mildly upset, and very upset. Each test item is assigned a one, two, three, or four point value with a four being very happy, a three being slightly happy, a two being mildly upset, and a one being very upset. Each test item begins "How do you feel...", and the student is to respond by circling the Garfield pose which best represents his or her feelings about the statement.

Questions 1-10 center around feelings regarding recreational reading and questions 11-20 center around feeling regarding academic reading (McKenna & Kear, 1990). The students were informed that reading while following along to audiobooks should be included in their definition of reading (i.e. "How do you feel when you read a book or read while following along to an audiobook on a rainy Saturday?").

The ERAS was selected for several reasons. A large-scale study (N = 18,138) was conducted with the survey to establish national norms. The stratified sample was drawn from 95 school districts across 38 states, representing an ethnic distribution close to the U.S. population at the time of the study (McKenna & Kear, 1990). Therefore, teachers are able to convert raw scores into percentiles to compare the attitudes of their students to the national sample. Additionally, the ERAS has a standardized method of survey administration which increases reliability of the measure for pretest posttest use (Johns & Lenski, 2005).

Threats to Reliability and Validity

The measurement tools used in the present study are subject to threats of reliability, internal validity, and external validity. In regard to the measurement tool used to obtain reading attitude scores, Kazelskis, Thames, Reeves, Flynn, Taylor, and Turnbo (2005), suggested that score instability could change based how students feel about themselves and their performance in the classroom rather than their attitude specifically about reading. For example, if a student has received complimentary remarks on a particular reading activity, his or her attitude will be reflected positively on the survey. This threat to internal validity was addressed by having the researcher, someone who had little contact with the students, conduct the assessment. The pretest and posttests were given in the same location, on the same day of the week, and at the same time of day. A second threat to internal validity was repeated testing with the same or similar measurement instrument. When measuring reading fluency, the researcher used different forms of the reading measurements written at the same reading level for the pretest and posttest to control this threat. Given there was only one form of the ERAS available practice effects for the reading attitude measure could not be controlled.

Procedures

Data Collection

The researcher met with each subject one-on-one in the subject's school to complete the reading fluency and reading attitude pretest. The assessment administration time varied between students, but generally took from 10 to 15 minutes for both the pretest and posttest. Immediately after the pretest, students in the treatment group selected their books/audiobooks and were shown how to work their MP3 players. The

audio-assisted reading method (reading while following along) was explained to the students and teachers in the treatment group.

The three reading fluency scores from the DIBELS oral reading fluency measures were averaged after the assessment administration to determine a mean fluency score. Scores on the ERAS were also compiled following the meeting. Eight weeks after the pretest was administered, the researcher met with each subject again in a one-on-one setting in his or her school to administer the reading fluency and reading attitude posttest.

Materials

Students in the treatment group used MP3 players with downloaded audiobooks during the study. Two types of MP3 players were used: the iPod Shuffle and the Buslink Musica. Each student was given an MP3 player with audiobooks of their choosing downloaded on the device. The audiobooks were selected by each student from a list of books written at or just below that student's reading level (Appendix K). The audiobooks were purchased and downloaded from www.itunes.com and www.recordedbooks.com. The students were also provided with the hard copy of the book that corresponded with the audiobook to follow along while listening, directions for how to use their MP3 player, and a flat wooden stick to serve as a tracking tool. All materials were compiled and stored in a plastic bag. When students finished the books, the teachers contacted the researcher and new audiobooks were loaded on their MP3 players.

The materials were stored and used in the students' general education classrooms. However, students were permitted to take the materials to their special education classrooms to use if they were not in their general education classroom during SSR time

on a given day. Students were permitted to take their MP3 player home during Spring Break for recreational reading in their free time.

Treatment Group Intervention Procedures

Students in the treatment group began use of audio-assisted reading as an intervention one to two days after the pretest was administered. Instead of participating in traditional SSR in their classrooms for a minimum of 20 minutes a day, four days a week, they engaged in audio-assisted reading by listening to digital audiobooks on their MP3 players. The researcher maintained treatment fidelity by monitoring the audiobook recording hours downloaded on each student's MP3 player and keeping track of the number of books lent out. One student was dismissed from the study due to lack of participation.

Control Group Procedures

Students in the control group continued participation in SSR after the pretest was administered. They were allowed to engage in SSR in either their general education classroom or special education classroom.

Data Analysis

Descriptive analysis was conducted on the characteristics of the treatment and control groups. Chi-squared tests for independent samples revealed that the groups did not differ by gender, disability, or grade. A one-way between groups analysis of variance showed that overall reading proficiency, as reflected by Michigan Educational Assessment Program reading subtest scores, did differ at the onset of the study with scores of the control group significantly higher than treatment group scores.

A two-way mixed factorial ANOVA (also known as a pretest posttest with control group or a split-plot ANOVA) design with post-hoc t-tests was used to investigate the research questions. Students in the control and treatment groups made significant gains in the number of words read correctly per minute; however, the gains made by the treatment group outweighed the gains made by the control group. Reading attitude results did not prove significant.

Summary

This study included 20 upper elementary students with documented reading disabilities from schools in a suburban school district in the Midwest. Students in the control group (n = 10) participated in the traditional practice of SSR, while students in the treatment group (n =10) engaged in audio-assisted reading with digital audiobooks over an eight-week implementation period. DIBELS oral reading fluency measurements and the ERAS were used to quantify the outcome variables of reading fluency and reading attitude, respectively. Measurements were taken at the pretest and posttest time periods. Results indicated a statistically significant difference between reading fluency gains made by the treatment group as compared to gains made by the control group. Findings for recreational, academic, and overall reading attitudes were not significant.

CHAPTER IV

RESULTS

Introduction

This chapter presents the results of the data analysis. The first section provides a description of students in the treatment and control groups. The results of the analytical procedures for reading fluency are presented in the second section and reading attitude results are presented in the third section. Last, a brief summary is provided and illustrated with bar graphs.

The purpose of this study was to explore the effectiveness of audio-assisted reading with digital audiobooks and MP3 players with upper elementary students with reading disabilities. Research questions addressed the impact of the intervention on outcome variables measuring growth in the areas of reading fluency and reading attitude as compared to the control group.

Descriptive Results

Upper elementary students with reading disabilities were asked to participate in this study. The students were in five different elementary schools in the same Midwestern school district. Two schools were assigned to the treatment group (n = 10) and three schools were assigned to the control group (n = 10).

Chi-squared tests for independent samples were used to determine if the two groups differed by gender, disability, and grade. The results were not statistically significant for gender, Π^2 (1) = .63, $p > .05$, disability, Π^2 (1) < .01, $p > .05$, or grade, Π^2 (1) =1.88, $p > .05$. These findings indicated that there were no differences in the distribution of male and female students in the two groups. The proportion of students

with learning disabilities and other health impairments as a result of Attention Deficit Hyperactivity Disorder in each of the groups was not significantly different. In addition, the ratio of fourth to fifth graders did not differ significantly between the treatment and control groups. See Table 3 for frequencies.

A one-way between-groups analysis of variance was conducted to explore the differences in overall reading proficiency at the onset of the study between the treatment and control schools. Overall reading proficiency was determined by scores on the Michigan Educational Assessment Program reading subtest. There was a statistically significant difference between the groups of schools ($F(1, 4) = 17.04, p < .05$) with the mean score for the control group ($M = 94$, $SD = 2.03$) significantly higher than that of the treatment group ($M = 91.26$, $SD = .55$). This factor is subsequently considered in the interpretation of the findings.

One outlier was identified. Upon further investigation, it was determined that the subject represented by the scores was in the treatment group. The researcher chose to keep the subject's scores in the data analysis since the increase in reading fluency for this subject (9.60 words read correctly per minute) and the decrease in overall reading attitude (-2, as indicated the Elementary Reading Attitude Survey) did not differ from the treatment group mean for reading fluency ($M = 17.03$) or for overall reading attitude ($M = 3.8$).

Research Question Results

Four research questions were developed for this study. Each question was addressed using inferential statistical analysis, with all determinations of statistical significance of the findings made using an alpha of .05. The guidelines proposed by

Table 3

Number of Students by Gender, Disability, and Grade Level

	Control Schools			Treatment Schools	
	School A	School B	School C	School D	School E
Gender					
Males	2	3	3	5	1
Females	1	0	1	3	1
Disability					
Learning Disabilities	3	3	2	8	1
Other Health Impairment	0	0	2	0	1
Grade					
Fourth	2	3	1	2	1
Fifth	1	0	3	6	1

Cohen (1988) for interpreting eta squared values were incorporated and are as follows: .10 = small effect, .30 = moderate effect, .50 = large effect. Equality of variance was investigated and there was no departure from normality at anytime point for the reading fluency variable or the overall reading attitude variable (all *p*s < .05). See Table 4.

Table 4

Tests of Normality for Reading Fluency and Overall Reading Attitude

Variable and time point	Group	Shapiro-Wilk	
		F	*p*
Overall Attitude Pretest	Control	.95	.65
	Treatment	.92	.38
Overall Attitude Posttest	Control	.96	.75
	Treatment	.97	.90
Reading Fluency Rates Pretest	Control	.93	.45
	Treatment	.86	.08
Reading Fluency Rates Posttest	Control	.99	.99
	Treatment	.96	.78

Note. Degrees of freedom = 10 for all time points and both groups.

Reading Fluency

Research Question One

After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, is there a significant difference between the

reading fluency rates of the treatment and control groups, as reflected in the pretest and posttest fluency scores?

A two-way mixed factorial ANOVA was conducted to determine if there were differences in mean scores for the treatment and control groups at the onset of the study (pretest) and at the conclusion of the study (posttest). Table 5 presents means and standard deviations for each group over the two measurement periods. Initial examination of compound symmetry was found to be violated in all cases ($p > .05$); therefore, the more conservative Huynh-Feldt statistic is subsequently reported. Analysis of variance results showed a statistically significant main effect for pretest and posttest scores ($F(1, 18) = 31.39, p < .001$, eta squared = .64) and a significant interaction between the two groups ($F(1, 18) = 10.45, p = .005$, eta squared = .37). Since the significant interaction precludes interpretation of main effects, an analysis of simple effects was initiated.

Paired-samples t-tests were conducted to compare pretest and posttest scores for the control group and the treatment group. Results indicated that there was a significant increase in posttest scores for both the control group ($t(9) = 3.55, p = .006$, eta squared = .58) and the treatment group ($t(9) = 4.69, p = .001$, eta squared = .71). It must be noted that while the eta squared statistic for both the treatment group (.71) and control group (.58) indicate a large effect size, the treatment group effect was considerably larger (Cohen, 1988). Thus, both groups showed improvement in number of words read correctly per minute between the pretest and posttest periods; however, the treatment group demonstrated larger gains.

Next, independent-samples t-tests were conducted to compare the pretest and posttest scores for the treatment and control groups. Equality of variance was investigated

at both time points and was not found to be violated at either the pretest or posttest ($ps >$ .05). There was no significant difference in pretest scores for the groups ($t(18) = 1.11, p = .28$, eta squared = .06). However, there was a significant difference in posttest scores for the groups ($t(18) = 2.47, p = .02$, eta squared = .25). This shows that while the students in the treatment and the control groups did not differ at the onset of the study in terms of reading fluency, by the conclusion there was a significant increase in the number of words read correctly by the treatment group. This must be viewed in light of the descriptive statistics which revealed that the overall reading proficiency at the onset of the study was actually higher for the control group schools ($M = 94$, $SD = 2.03$) than that of the treatment group schools ($M = 91.26$, $SD = .55$).

Based on the findings, the null hypothesis of no difference in reading fluency rates between the treatment and control groups after the intervention was rejected. The treatment group showed a greater increase in number of words correctly read per minute.

Table 5

Reading Fluency Means and Standard Deviations for Group by Time Period

	Control		Treatment	
	Mean	SD	Mean	SD
WCPM Pretest	74.76	13.69	84.00	22.47
WCPM Posttest	79.33	12.47	101.03	24.88

Reading Attitude

Research Question Two

After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, is there a significant difference between the overall reading attitude scores of the treatment and control groups, as reflected in the pretest and posttest attitude scores?

A two-way mixed factorial ANOVA was used to compare for mean differences in pretest and posttest scores on overall reading attitude between the treatment and control groups. Means and standard deviations for each group across the time periods are presented in Table 6. Initial examination of compound symmetry was found to be violated ($p > .05$), therefore the more conservative Huynh-Feldt statistic is reported. Analysis of variance results indicated that there were no statistically significant main effects for group ($F(1, 18) = 1.43, p = .25$) or time period ($F(1, 18) = .15, p = .71$). The obtained eta squared of .07 for group and < .01 for time as measurements of effect size obtain for this analysis were considered low (Cohen, 1988). There was not a significant group and time interaction ($F(1, 18) = 1.32, p = .27$, eta squared = .07).

As a result of these findings, the null hypothesis of no differences in overall reading attitude scores between students in the treatment and control group was not rejected. Therefore, it can be concluded that overall reading attitude was affected neither by the intervention (audio-assisted reading with audiobooks during sustained silent reading time) nor by the control situation (traditional sustained silent reading) across the onset and conclusion of the study. However, an examination of treatment group means

revealed a slight decrease in overall reading attitude scores for the control group and a slight increase for the treatment group.

Table 6

Overall Reading Attitude Means and Standard Deviation for Group by Time Period

	Control		Treatment	
	Mean	SD	Mean	SD
Overall Attitude Pretest	54.90	6.19	55.30	7.59
Overall Attitude Posttest	53.00	8.11	59.10	10.45

Research Question Three

After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, is there a significant difference between the recreational reading attitude scores of the intervention and control groups, as reflected in the pretest and posttest attitude scores?

A similar analysis was conducted to test for mean differences in recreational reading attitude between the treatment and control groups at the two time periods (pretest and posttest). Table 7 presents means and standard deviations for each group at the pretest and posttest time periods. Posttest mean scores for students in the treatment group were higher than mean scores for students in the control group, although the differences were not statistically significant. Analysis of variance results indicated that there were no significant main effects for group ($F(1, 18) = 2.49, p = .13$, eta squared = .12) or time period ($F(1, 18) = .19, p = .67$, eta squared = .01). There was not a significant group and

time interaction ($F(1, 18) = 1.54, p = .23$, eta squared = .08). Due to a violation of compound symmetry ($p > .05$), the more conservative Huynh-Feldt statistic was reported.

Consequently, recreational reading attitude was affected neither by the intervention (audio-assisted reading with audiobooks during sustained silent reading time) nor by the control situation (traditional sustained silent reading) across the onset and the conclusion of the study. The null hypothesis that there were no differences in recreational reading scores between the treatment and control groups across time periods was not rejected.

Table 7

Recreational Reading Attitude Means and Standard Deviation for Group by Time Period

	Control		Treatment	
	Mean	SD	Mean	SD
Recreational Attitude Pretest	27.50	3.84	28.20	4.47
Recreational Attitude Posttest	26.40	4.27	30.50	5.56

Research Question Four

After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, is there a significant difference between the academic reading attitude scores of the treatment and control groups, as reflected in the pretest and posttest attitude scores?

Finally, the impact of audio-assisted reading with digital audiobooks and sustained silent reading on academic reading was examined. A two-way mixed factorial ANOVA was performed to test for mean differences in academic reading attitude

between the treatment and control groups at the two time periods (pretest and posttest). Means and standard deviations for each group across the time periods are presented in Table 8. Again, because initial examination of compound symmetry was found to be violated ($p > .05$), the more conservative Huynh-Feldt statistic is reported. Analysis of variance results showed no statistically significant differences for group ($F(1, 18) = .22, p = .65$, eta squared = .01) or time period ($F(1, 18) = .07, p = .79$, eta squared < .01). There was not a significant group and time interaction ($F(1, 18) = .76, p = .40$, eta squared = .04).

Therefore, the null hypothesis that no difference in academic reading attitude scores between the treatment and control groups after the intervention was not rejected. Academic reading attitude was not affected by the intervention (audio-assisted reading with audiobooks during sustained silent reading time) or by the control situation (traditional sustained silent reading) across the onset and the conclusion of the study.

Table 8

Academic Reading Attitude Means and Standard Deviation for Group by Time Period

	Control		Treatment	
	Mean	SD	Mean	SD
Academic Attitude Pretest	27.40	4.20	27.10	4.56
Academic Attitude Posttest	26.60	5.60	28.60	5.64

Summary

The results presented in this chapter revealed that audio-assisted reading with digital audiobooks had a more positive impact on reading fluency rates for the treatment

group as compared to the control condition for the population examined (see Figure 4). Students in the treatment group demonstrated a mean increase of 17.03 words correct per minute, while control group students only increased by a mean of 4.57 words correct per minute. Thus, students in both groups made gains, but the increase in number of words read correctly per minute far outweighed gains by the control group (eta squared = .25).

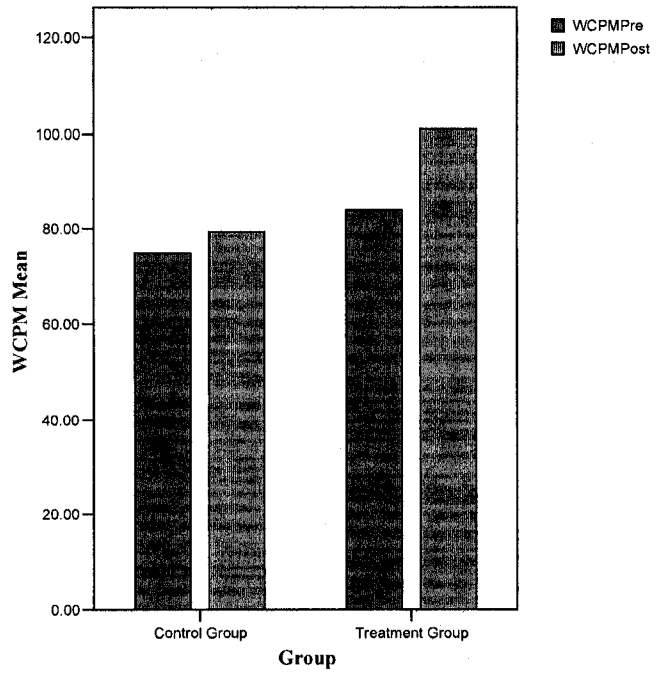

Figure 1. Mean reading fluency scores for the treatment and control groups.

The intervention did not have a significant impact on overall attitude about reading, recreational reading attitude, or academic reading attitude (see Figures 5, 6, and 7, respectively). An examination of the overall reading attitude mean scores showed a slight increase in scores for the treatment group, whereas there was a slight decrease in scores for the control group. However, these results were not significant.

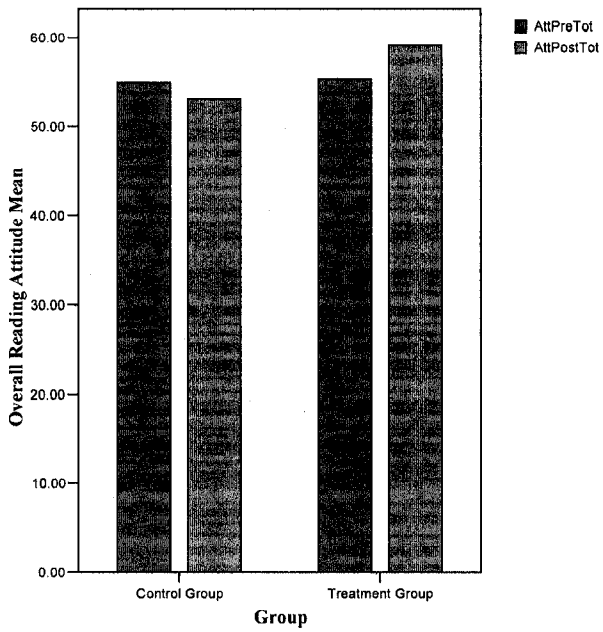

Figure 2. Overall reading attitude mean scores for the treatment and control groups.

Similar to the results of overall reading attitude, students in the control group demonstrated a slight decrease in recreational reading attitude. Students in the treatment group showed an increase. Statistical significance was not found for this variable.

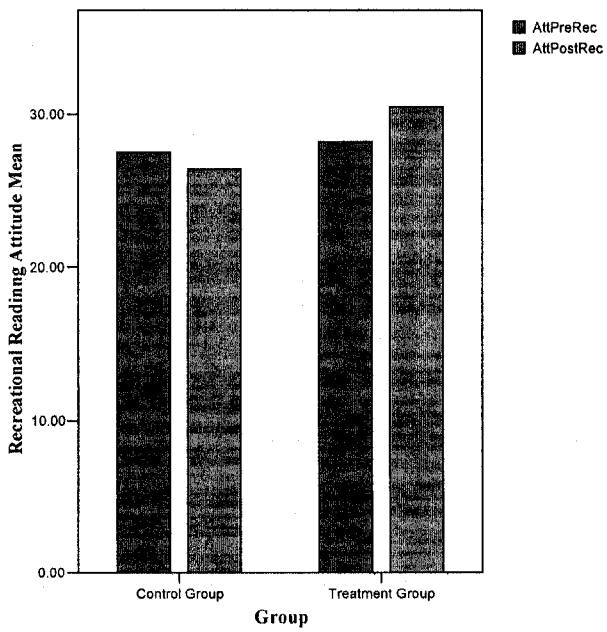

Figure 3. Recreational reading attitude mean scores for the treatment and control groups.

Finally, when examining academic reading attitude, the trend was maintained. Students' means scores were consistent at the pretest measurement point, but control group students showed a slight decrease in academic reading attitude scores, while treatment group students showed a slight decrease. Nevertheless, the results were not significant.

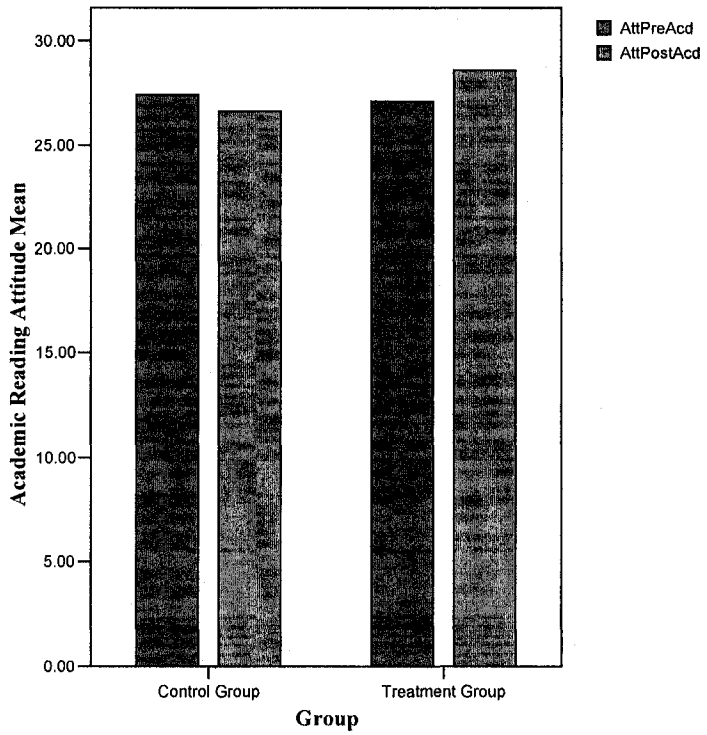

Figure 4. Academic reading attitude mean scores for the treatment and control groups.

CHAPTER V

DISCUSSION

Introduction

Chapter V reiterates the aims of the current study and reviews the information presented in the first four chapters. It further discusses the main findings for each of the four research questions, addresses educational implications, examines the limitations of the study, suggests further areas for research in the area of reading, and offers a summary.

Instruction for Students with Reading Disabilities

Sustained silent reading (SSR) can be traced back to the 1950s when teachers regularly used workbooks as their primary means of reading instruction. SSR offered a period of time devoted to reading connected text so that students could transfer the isolated skills learned during the regular instructional period (Pilgreen, 2000). Reading instruction has changed dramatically since then (International Reading Association, 1999). The National Reading Panel (2000) did not endorse SSR as a method of building reading fluency or reading attitude, due to the lack of experimental research evidence; however, they did not completely reject the practice.

The Neurological Impress Method (Heckelman, 1969) was developed approximately 20 years after SSR became a routine practice in education (Pilgreen, 2000). It was the first strategy that utilized the philosophy behind assisted reading strategies (Kuhn & Stahl, 2003). The Neurological Impress Method involves partnering the struggling reader with a fluent adult. The fluent adult would read the text along with the struggling reader, but at a slightly faster pace (Flood, Lapp, & Fisher, 2005; Heckelman, 1969, Johns & Lenski, 2005; Kuhn & Stahl, 2003). This method, along with

later methods which partnered fluent peers with struggling readers (Koskinen & Blum, 1986; Eldredge, 1990; Fuchs, Fuchs, Yen, McMaster, Svenson, Yang, Young, Morgan, Gilbert, Jaspers, Jernigan, Yoon, & King, 2001), are grounded in Lev Vygotsky's social-cultural theory (1978) because the fluent reader serves as the instructional scaffold for the struggling reader (Kuhn & Stahl, 2003). Instead of reading independently, the reader is "assisted" by a more competent reader.

Later, Vygotsky's social-cultural theory was extended to include technology as an instructional scaffold (Hung & Nichani, 2002; McLoughlin & Oliver, 1998). Practitioners began using tape-recorded readings of text to provide the fluent model (Carbo, 1978; Chomsky, 1976; Hollingsworth, 1970; Hollingsworth, 1978), thus beginning the movement toward audio-assisted reading (Kuhn & Stahl, 2003). Audio-assisted reading has evolved with advancement in technology, moving from taped recordings, to CDs, to digital recordings played on MP3 players in the present study. Despite the variation with the devices, research on audio-assisted reading has continuously shown the method to be effective with students with learning disabilities (Carbo, 1978; Gilbert, Williams, & McLaughlin, 1996) and with struggling readers (Chomsky, 1976; Hollingsworth, 1978; Hoskisson & Krohm, 1974; Koskinen, Blum, Bisson, Phillips, Creamer, & Baker, 2000; Rasinski, 1990).

The National Reading Panel (2000) cautioned that research did not support the use of SSR particularly for students who struggled with reading. Given that one of the primary purposes of SSR is uninterrupted independent reading with self-selected text (Pilgreen, 2000; Yoon, 2002), when struggling readers demonstrate a lack of participation in SSR, the amount of literature they are exposed to is decreased. Casbergue and Harris

(1996) found that audio-assisted reading with audiobooks read by expressive readers not only made reading more pleasurable, but it also exposed student to higher amounts of literature. Additionally, audio-assisted reading has proven to be successful in promoting reading fluency (Carbo, 1978; Chomsky, 1976; Gilbert, Williams, & McLaughlin, 1996; Hollingsworth, 1978) and in improving attitudes about reading (Gilbert, Williams, & McLaughlin, 1996; Koskinen, Blum, Bisson, Phillips, Creamer, & Baker, 2000). However, only two studies focused on the impact of audio-assisted reading with students who had learning disabilities (Carbo, 1978; Gilbert, Williams, & McLaughlin, 1996).

It is well-documented in professional literature that students with learning disabilities struggle with reading (Bender, 1999a; Hallahan, Lloyd, Kauffman, Weiss, & Martinez, 2005; Mastropieri, Leinart, & Scruggs, 1999; Tiu, Thompson, & Lewis, 2003). The same can be said for students with other health impairments due to Attention Deficit Hyperactivity Disorder (Frazier, Youngstrom, Glutting, & Watkins, 2007; Goldston, Walsh, Arnold, Reboussin, Daniel, Erkanli, Nutter, Hickman, Palmes, Snider, & Wood, 2007; Samuelson, Lundberg, & Herkner, 2004). This is alarming since students with disabilities in the area of reading tend to continue as dysfluent readers throughout adulthood (Bos & Vaughn, 2002; Frazier, Youngstrom, Glutting, & Watkins, 2007; Goldston, et al., 2007; Mastropieri, Leinart, & Scruggs, 1999, Rasinski, 2004; Rasinski, Padak, McKeon, Wilfong, Friedauer, & Helm, 2005; Samuels & Farstrup, 2006). However, Mercer and Mercer (2005) stated that instructional intervention focused on reading fluency remediation for students with disabilities appeared to be beneficial. Students with reading disabilities have the right to access effective instructional strategies in this critical area.

Professional literature increasingly speaks to how teachers can address variance in the general education classroom without the need for specialized instruction outside the classroom walls with differentiated instruction (Tomlinson, et al., 2003). Differentiated instruction is commonly thought of as "ensuring that what a student learns, how he/she learns it, and how the student demonstrates what he/she has learned is a match for that student's readiness level, interests, and preferred mode of learning" (Tomlinson, 2004, p. 188). In a position statement titled "Making a Difference Means Making it Different" by the International Reading Association (2000) the authors stated:

> Because children learn differently, teachers must be familiar with a wide range of proven methods for helping children gain [*reading*] skills. They must have a thorough knowledge of the children they teach, so they can provide the appropriate balance of methods needed for each child. Because there is no clearly documented best, or only, way to reach reading, teachers who are familiar with a wide range of methodologies and who are closest to the children must be the ones to make the decisions about what reading methods and materials to use. Furthermore, these professionals must have the flexibility to modify those methods when they determine that particular children are not learning. Each child must be provided with an appropriate combination of methods. (p. 3)

Clearly, teachers are responsible for offering students multiple methods of instruction, based on formative assessment, that have been proven effective in order to remediate reading difficulties. It seems that if SSR is not effective for

students who struggle with reading, teachers should provide other means to meet the goals and objectives of SSR.

The goal of this research study was to examine how audio-assisted reading with digital audiobooks and SSR influenced reading fluency and reading attitude. Participants in the study were upper elementary students with reading disabilities. Students in the treatment group were given MP3 players with downloaded audiobooks and the accompanying text to follow while listening. Instead of participating in SSR, students engaged in audio-assisted reading during the time normally devoted to SSR. Pretest and posttest scores for all of the variables were analyzed to determine if there was differential growth between the treatment group (audio-assisted reading with digital audiobooks) and the control group (SSR).

Discussion of the Findings

Four research questions were investigated in this study. Each question is specifically discussed in the following sections.

Gains in Reading Fluency

Research Question One

After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, is there a significant difference between the reading fluency rates of the treatment and control groups, as reflected in the pretest and posttest fluency scores?

Results showed that both the control group and treatment group made significant gains in reading fluency rates over the eight-week implementation period; however, the treatment group (mean increase of 17.03 words correct per minute) significantly

outperformed the control group (mean increase of 4.57 words correct per minute). These positive findings provide an extension of both the Carbo study (1978) and the Gilbert, Williams, and McLaughlin study (1996). In the aforementioned studies, tape-assisted reading was employed with text written at and below the students' grade levels. Similar to the present study, students with disabilities made significant gains; however, the aforementioned studies lacked control groups.

Deno, Fuchs, Marston and Shin (2001), conducted a large-scale study (N = 2999) aimed at using curriculum-based measurements to establish growth standards for students with disabilities. According to their research, students receiving special education could be expected to demonstrate an increase of .58 words correct per minute each week. In the context of the present study, using these findings, students would be expected to demonstrate an increase of 4.64 words correct per minute at the end of the eight-week implementation period, which parallels the improvement made by the treatment group (M = 4.57). Conversely, students in the control group improved their reading rates by an average of over 12 words beyond what is expected of a student receiving special education over the eight-week implementation period (M = 17.03).

It is necessary to point out that gains in fluency rates made by the treatment group cannot be contributed to an increase in time spent reading. Audio-assisted reading with audiobooks was substituted for SSR.

Lack of Gain in Reading Attitude

Research Question Two

After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, is there a significant difference between the

overall reading attitude scores of the treatment and control groups, as reflected in the pretest and posttest attitude scores?

Overall reading attitude scores increased over the implementation period for the treatment group and decreased for the control group, but the finding was not statistically significant. This finding raises several questions. If SSR does not increase overall attitudes about reading for students with reading disabilities, what is the rationale for its use? There were modest gains in reading fluency, but is this enough to justify use of SSR without modification?

Research Question Three

After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, is there a significant difference between the recreational reading attitude scores of the treatment and control groups, as reflected in the pretest and posttest attitude scores?

Again, even though the findings were not significant, there was gain in recreational reading attitude for treatment group participants, while the control group showed a decrease. Given that SSR time is normally devoted to recreational reading based on the students' unique literary interests, one must wonder if students in the treatment group were affected by the limitation that they had to engage in audio-assisted reading with digital audiobooks in order to continue as participants in the study. One explanation may be that students in the control group were only ever presented with the option of SSR, whereas the students in the treatment group varied from the traditional practice. Did the students in the treatment group feel a lack of self-determination as a result? Did they feel restricted by the reduced number of book choices they had due to the

fact that many books had not been converted to audio format at the time of the study? Might there have been a significant positive increase in recreational reading attitude if students were given the option of listening to audiobooks while following along during SSR time, instead of having it mandated? Interviews with treatment group participants, conducted informally after completion of the posttesting, indicated that the lack of self-determination may have played a role in the non-significant findings in recreational reading attitude.

Research Question Four

After an eight-week intervention (audio-assisted reading with digital audiobooks and MP3 players) with a treatment group, is there a significant difference between the academic reading attitude scores of the treatment and control groups, as reflected in the pretest and posttest attitude scores?

Academic reading attitude results were similar to the results presented for overall reading attitude and recreational reading attitude. Treatment group participants demonstrated a slight, but non-significant, increase in academic reading attitude across the measurement points and the control group participants demonstrated a slight, but non-significant, decrease. When considering the results from research question one, which pertained to more significant gains in reading fluency for treatment group participants, one must wonder if a significant increase in academic reading attitude would have been found had there been a longer time period between the pretest and posttest measurement points. Put simply, would treatment group students begin to see and feel their improvement in reading fluency and therefore, demonstrate a more positive attitude regarding academic reading as a result of their success? A longer intervention period may

have enabled students to realize how much audio-assisted reading with audiobooks actually helped them with reading.

Educational Implications

The research presented in this study helps guide instructional planning for students with reading disabilities. The implications presented include: (a) offering audio-assisted reading as an accommodation to promote differentiated instruction during SSR; (b) adding audio-assisted reading to a balanced literacy program; (c) implementing audio-assisted reading as an evidence-based intervention for students at-risk for reading failure; and (d) encouraging audio-assisted reading during recreational time.

Audio-assisted Reading as an Option to Accommodate Reading Difficulties during SSR

The results of this study support the importance for teachers to differentiate their instruction during the time normally devoted to SSR. The significant findings in reading fluency support the educative value of audio-assisted reading with digital audiobooks as an accommodation for students with reading disabilities. When considering which method to choose for students, practitioners must consider students' readiness levels, interests, and learning profile (Tomlinson, 2004). Oftentimes, allowing student choice yields a positive experience for the student (Copper & Tomlinson, 2006). Teachers should provide students with the option of listening to audiobooks while following along with the text during SSR time. Also, providing the option to access the accommodation for those students who would benefit from it promotes differentiated instruction.

Audio-assisted Reading as an Addition to a Balanced Literacy Program

Effective elementary literacy instruction balances holistic literacy experiences, such as reading authentic literature, and skills instruction, such as phonics and the

teaching of comprehension strategies (Pressley, Roehrig, Bogner, Raphael, & Dolezal, 2002). Students need both holistic and direct instruction to grow and develop as readers (Carbo, 2005; International Reading Association, 1999). Although students with reading disabilities benefit tremendously from direct instruction in phonics (Bender, 1999; Mercer & Mercer, 2005), experiences with authentic literature and exposure to good books is a necessary part of an effective reading program. Students who struggle with reading should not be limited to skills-based instruction alone (Carbo, 2005; Pressley, Roehrig, Bogner, Raphael, & Dolezal, 2002). Audio-assisted reading with audiobooks provides meaningful access to literature and increases exposure to literature (Gilbert, Williams, & McLaughlin, 1996). Some may be surprised that direct instruction in phonics should consume one quarter or less of a total reading program (Carbo, 2005). Teachers should evaluate whether an overemphasis on skills-based instruction is occurring in the reading programs of students with reading disabilities and consider adding audio-assisted reading with audiobooks to their programs as a means of increasing exposure to authentic literature and improving reading fluency.

Audio-assisted Reading as an Evidence-based Intervention

The Individuals with Disabilities Education Act (2004) has created significant changes in the identification of students with learning disabilities with the elimination of the criterion that a severe discrepancy between achievement and intelligence be present in order for a student to qualify as learning disabled (R340.17, 2004). A new pathway for determination of eligibility, called Response to Intervention, emerged as a result in the change in legislation (Jennings, Caldwell, & Lerner, 2006). Ultimately, Response to Intervention is both an identification and prevention model which features multiple tiers

of evidence-based interventions focused on the individual needs of the student (Justice, 2006). These multi-tiered interventions are aimed at reducing deficits in reading and are implemented throughout the period of possible identification of a disability. A key premise of Response to Intervention is the need for evidence-based strategies (Jennings, Caldwell, & Lerner, 2006; Justice, 2006). Given the research presented in this study and existing research supporting the use of audio-assisted reading (Carbo, 1978; Chomsky, 1976; Gilbert, Williams, & McLaughlin, 1996; Hollingsworth, 1978; Hoskisson & Krohm, 1974; Koskinen, Blum, Bisson, Phillips, Creamer, & Baker, 2000), audio-assisted reading with digital audiobooks could be added to teachers' battery of interventions to implement during the Response to Intervention tiers.

Audio-assisted Reading for Recreation

Students who struggle with reading require increased exposure to literature in order to automatically recognize and recall words (Bos & Vaughn, 2003; Yopp & Yopp, 2003). Active participation in reading and spending time with text promotes overall reading ability (Yopp & Yopp, 2003). Providing access to materials needed to implement audio-assisted reading with digital audiobooks in students' recreational time could be a step toward increasing the exposure students have to literature. School and public libraries should allow students to check out MP3 players with downloaded audiobooks for home use. Teachers could support families of students with reading disabilities by training parents in the method and by offering suggestions in their newsletters for integrating audio-assisted reading with audiobooks into recreational time.

Limitations

This study had limitations that affect the interpretation and generalizability of the results. They are discussed in the following order: (a) presence of a small sample size for testing interaction effects, (b) teachers' efficacy and experience with teaching reading, and (c) the possibility students did not participate in the control situation or intervention as intended.

A relatively small sample size was used in this study. Ten students participated in the treatment group and 10 in the control group. These group sizes make generalizability more difficult (Cohen, 1988). However, the results support existing research with similar populations (Carbo, 1978; Gilbert, Williams, & McLaughlin, 1996).

All teachers in the study used a remedial reading program called Read Naturally®. The program addresses reading fluency and comprehension with repeated reading of leveled passages, progress monitoring, and listening to a fluent model. However, this was not the only instructional method used to address reading deficits. The teachers used a variety of additional programs and therefore, the consistency of instruction across schools varied. It must also be noted that two of the three teachers in the treatment schools were first-year teachers in the field of special education. One teacher from the treatment school and all three teachers from the control schools had been teaching in the field of special education for over 10 years.

There is a possibility students did not fulfill the requirements of the study as intended. No evidence suggests that control group students did not participate in silent sustained reading during the time allotted, but given the tendency for students' to lose focus, the possibility should be considered. The same is true for students in the treatment

group. Although the researcher explained the importance of following along with text with the tracking tool provided, it is possible the students just listened to the audiobook instead of reading along while listening.

Future Research

There is potential for additional research to build upon the work presented in this study and previous research (Carbo, 1978; Chomsky, 1976; Gilbert, Williams, & McLaughlin, 1996; Hollingsworth, 1970; Hollingsworth, 1978; Hoskisson & Krohm, 1974; Koskinen, Blum, Bisson, Phillips, Creamer, & Baker, 2000). Additional studies could include: (a) extending the implementation period and allowing for students to use audio-assisted reading with audiobooks as an option rather than requiring its use; (b) comparing the method with other instructional methods; (c) examining the impact of the intervention on variables such as reading prosody and comprehension; and (d) implementation of audio-assisted reading with audiobooks with other populations.

Extending Time and Allowing Options

Students who engaged in audio-assisted reading with audiobooks showed more growth in reading fluency rates as compared to SSR for students with reading disabilities. Extending the time period of the intervention could result in a more significant difference. However, there was no difference in recreational, academic, or overall reading attitude between the treatment and control groups. It would be sensible to increase the intervention period and allow the students the option of using an MP3 player with downloaded audiobooks instead of insisting that they use the intervention throughout the study. Students could introduce themselves to the book by listening while following along to the first couple of chapters and then read the rest of the book on their own.

Another option is to alternate listening while following along to a digital audiobook to it completion and reading books without audio support. This would allow the students increased self-determination and may increase reading attitude. Number of hours listened could be compared with reading fluency rates and attitude scores.

Audio-assisted Reading with Audiobooks against Other Instructional Methods

In this study, audio-assisted reading with audiobooks was compared with the traditional practice of SSR. Evaluating the use of audio-assisted reading with audiobooks against other instructional methods such as repeated reading and other programs such as the Read Naturally® would add to the existing research.

In a review of developmental and remedial reading practices in the area of fluency, Kuhn and Stahl (2003) found that repeated reading produced statistically significant improvement in reading rate and oral reading expression on practiced passages. Conversely, they also raised the question:

> Does this understanding develop simply from the amount of practice students undergo with regard to word recognition, or is there something more specific to their reading of connected text and their emerging sense of its relation to oral language that allows for this understanding to develop? (p. 18)

Even though the National Reading Panel (2000) has found repeated reading to be a favorable method for improving reading fluency, it remained unclear whether its benefits were transferable to novel texts or if there was a negative impact on reading attitude. This raises the question: If audio-assisted reading with audiobooks provides increased and

scaffolded practice with word recognition, is there a need for student to engage in repeated reading if there may be detrimental effects on reading attitude?

Reading Prosody and Reading Comprehension

Future research could examine other variables such as reading prosody and reading comprehension. In this study, fluency was defined as the number of words read correctly per minute, but reading fluency encompasses more than just reading accuracy and rate. Rasinski (2004) cautioned that improving reading rate should not be the chief goal. Teachers should also assess and instruction in the areas of expression, volume, phrasing, and smoothness (Rasinski, 2004). Research should be conducted to determine if listening to highly trained orators read books aloud has a positive impact on reading prosody. Hearing what fluent reading sounds like and how readers interpret the text with their voices may prompt students to do the same.

There is a direct link between reading fluency rates and comprehension (Allington, 1983; Hudson, Lane, & Pullen, 2005; Mercer & Mercer, 2005; Rasinski, 2000; Samuels & Farstrup, 2006). When a reader does not have to spend time decoding words, the mind is available for understanding of the text to occur (LaBerge & Samuels, 1974). It is worthy to note, the treatment group made significant growth in reading fluency rates over the eight-week intervention period, increasing from a mean score of 84 to 101.03 words correct per minute. This is a gain of 2.13 words per week. It has been estimated that increases of 15 to 20 words correct per minute are required to make a positive impact on comprehension. Consequently, students who increased at the rate of one to two words per week could be expected to demonstrate growth in comprehension after 10 to 20 weeks of instruction (Markell & Deno, 1997). It can be assumed that

students in the treatment group improved their comprehension because their mean increase was 17.03 words correct per minute, but additional studies that specifically measure reading comprehension would make a definite contribution to existing research.

Implementation with Additional Populations

The research presented in this study focused on upper elementary students with diagnosed learning disabilities and other health impairments who consequently struggled with reading. Additional research could focus on specific disabilities areas such as emotional impairments and cognitive impairments. The research could be extended to students who do not have reading disabilities. Future research may want to include students from other grades. Kuhn and Stahl (2003) suggested that there may be a "window" for fluency instruction. They purport that past a high second grade reading level, fluency interventions may not be as effective. Conversely, Rasinski and others found that instruction in fluency with struggling readers in high school promised significant improvements in reading comprehension (Rasinski, 2004; Rasinski, Padak, McKeon, Wilfong, Friedauer, & Helm, 2005). It is possible that fluency instruction and actively promoting reading attitude needs to occur earlier or later to have the greatest impact.

Summary

The present study adds to the existing knowledge base by studying the effects of audio-assisted reading methodology with commercially-produced digital audiobooks and MP3 players. Results from this study showed that upper elementary students with reading disabilities demonstrated a greater increase in reading fluency rates when audio-assisted reading with digital audiobooks was utilized as compared to the control group which

participated in SSR. Overall reading attitude, recreational reading attitude, and academic reading attitude findings were not significant. Based on existing literature and the present study, the future of audio-assisted reading with digital audiobooks appears to be bright. This method will, hopefully, find its way into the reading programs of students with reading disabilities.

Appendix A

Human Subjects Institutional Review Board Approval Letter

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Date: February 20, 2007

To: Elizabeth Whitten, Principal Investigator
Kelli Esteves, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number: 07-01-13

This letter will serve as confirmation that your research project entitled "Audio-Assisted Reading with Audiobooks" has been **approved** under the **expedited** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: February 20, 2007

Walwood Hall, Kalamazoo, MI 49008-5456
PHONE: (269) 387-8293 FAX: (269) 387-8276

Appendix B

Letter to School Principals

Letter to Elementary School Principals

Western Michigan University
Department of Special Education and Literacy Studies
Principal Investigator: Elizabeth Whitten, PhD
Student Investigator: Kelli Esteves

Your school has been invited to participate in a research project entitled "Audio-assisted Reading with Audiobooks" The purpose of the study is to determine the usefulness of audio-assisted reading with audiobooks and MP3 players as an accommodation during sustained silent reading for students with documented disabilities. Effects on reading fluency and attitude will be measured. This project is being conducted to fulfill the dissertation requirement of myself, Kelli Esteves.

Your permission for your school to participate in this project means that, if selected for participation in the treatment group, students in your school will be given MP3 players that have audiobooks downloaded on them for use during classroom sustained silent reading time. Students will be asked to listen to books while following along with the printed version of the book. They will be allowed to select their own reading/listening from a list of books at or just below their reading level. Just prior to the implementation period, I will administer a reading fluency and attitude assessment which will take approximately 10 minutes. The same assessment will be given just after the implementation period. If you, parents, and students agree to participate, students will be expected to listen while following along during the classroom's sustained silent reading time (approximately 20-30 minutes per day, 4-5 times per week) for 10 weeks.

Please note: Given that this is a randomized study, your school may not be selected for the treatment group. If your school is selected for participation in the control group, students in your school will only participate in the assessment portion of the study.

If you agree to have your school participate, teachers will be sent a letter which seeks permission for their participation. Possible responsibilities of classroom and special education teachers include the need to:

- send home consent/assent letters;
- arrange assessment times with the researcher;
- house the MP3 players (if selected for the treatment group);
- help students remember to use the MP3 players (if selected for the treatment group);
- contact the researcher should questions arise.

Students will be free at any time to choose not to participate. If a student refuses or quits, there will be no negative effect on his/her school programming. Although there may be no immediate benefits to students for participating, there may eventually be benefits to the school district and subsequently to other students in special education programs. If this method is found to be useful, then other students who receive special education services will have the benefit of increasing attitude and/or reading fluency during silent reading time.

In the classroom setting, confidentiality is limited. However, all reasonable measures will be taken to ensure data and information from this study will remain as confidential as possible. That means that your school's name, and all student names, will be omitted from all assessment forms and a code number will be attached. The principal investigator will keep a separate master list with the names of the children and the corresponding code numbers. Once the data are collected and analyzed, the master list will be destroyed. All other forms will be retained for at least three years in a locked file in the principal investigator's office. No names will be used if the results are published or reported at a professional meeting.

The only risks anticipated are minor discomforts typically experienced by children when they are being tested and trained to use technology (e.g. boredom, frustration, mild stress during the testing situation), a

limited amount of missed class time, and possible stigmatization of use of an MP3 player during classroom sustained silent reading time given that it is a variation of typical classroom practice.

Students may withdraw from this study at any time without any negative effect.

If you have any questions or concerns about this study, you may contact either me, Kelli Esteves, at 616-874-0035 or Elizabeth Whitten at 269-387-5940. You may also contact the chair of the Human Subjects Institutional Review Board at 269-387-8293 or the vice president for research 269-387-9298 with any concerns that you have.

Sincerely,

Kelli Esteves

Appendix C

Letter to Special Education Teachers

Letter to Special Education Teachers

Western Michigan University
Department of Special Education and Literacy Studies
Principal Investigator: Elizabeth Whitten, PhD
Student Investigator: Kelli Esteves

Your school has been invited to participate in a research project entitled "Audio-assisted Reading with Audiobooks" The purpose of the study is to determine the usefulness of audio-assisted reading with audiobooks and MP3 players as an accommodation during sustained silent reading for students with documented disabilities. Effects on reading fluency and attitude will be measured. This project is being conducted to fulfill the dissertation requirement of myself, Kelli Esteves.

Your agreement to participate in the study means that students who receive special education services on your caseload and their parents will be contacted to seek consent for participation in the study.

If your school is selected for the treatment group, this means:

- students on your caseload will be given MP3 players that have audiobooks downloaded on them for use during their general education classroom sustained silent reading time;
- students will be asked to listen to books while following along with the printed version of the book;
- they will be allowed to select their own reading/listening from a list of books at or just below their reading level;
- students will be expected to listen while following along whenever their general education class engages in sustained silent reading;
- just prior to the implementation period, I will administer a reading fluency and attitude assessment which will take approximately 10 minutes;
- the same assessment will be given just after the implementation period;
- students will miss approximately 20 minutes of instruction time for the assessments to be administered;
- I will meet with you to talk about the assent/consent forms that will be sent home;
- you will send home the forms with the potential participants;
- you will collect the forms as students return them to school;
- I will meet with you to discuss the reading levels of your students so that the proper reading fluency probes can be administered;
- I will arrange a time to come in to administer the assessments to the participating students on your caseload (this can be during resource room time or classroom time, whatever works best);
- you will need to contact me if any problems arise throughout the study.

If your school is selected for the control group, this means:

- students who receive special education services in your class will be given a reading fluency and attitude assessment at the beginning of the study and 10 weeks later at the conclusion of the study;
- the assessments will take approximately 10 minutes each; therefore, they will miss about 20 minutes of instruction time;
- I will meet with you to talk about the assent/consent forms that will be sent home;
- you will send home the forms with the potential participants;
- you will collect the forms as students return them to school;
- I will meet with you to discuss the reading levels of your students so that the proper reading fluency probes can be administered;

- I will arrange a time to come in to administer the assessments to the participating students on your caseload (this can be during resource room time or classroom time, whatever works best);
- you will need to contact me if any problems arise throughout the study.

Students will be free at any time to choose not to participate. If a student refuses or quits, there will be no negative effect on his/her school programming. Although there may be no immediate benefits to students for participating, there may eventually be benefits to the school district and subsequently to other students in special education programs. If this method is found to be useful, then other students who receive special education services will have the benefit of increasing attitude and/or reading fluency during silent reading time.

All data and information from this study will remain confidential. That means that your school's name, and all student names, will be omitted from all assessment forms and a code number will be attached. The principal investigator will keep a separate master list with the names of the children and the corresponding code numbers. Once the data are collected and analyzed, the master list will be destroyed. All other forms will be retained for at least three years in a locked file in the principal investigator's office. No names will be used if the results are published or reported at a professional meeting.

The only risks anticipated are minor discomforts typically experienced by children when they are being tested and trained to use technology (e.g. boredom, frustration, mild stress during the testing situation). As in all research, there may be unforeseen risks to students. If an accidental injury occurs, appropriate emergency measures will be taken; however, no compensation or treatment will be made available to me or students except as otherwise specified in this permission form.

Students may withdraw from this study at any time without any negative effect.

If you have any questions or concerns about this study, you may contact either me, Kelli Esteves, at 616-874-0035 or Elizabeth Whitten at 269-387-5940. You may also contact the chair of the Human Subjects Institutional Review Board at 269-387-8293 or the vice president for research 269-387-9298 with any concerns that you have.

Sincerely,

Kelli Esteves

Appendix D

Letter to General Education Teachers

Letter to General Education Teachers

Western Michigan University
Department of Special Education and Literacy Studies
Principal Investigator: Elizabeth Whitten, PhD
Student Investigator: Kelli Esteves

Your school has been invited to participate in a research project entitled "Audio-assisted Reading with Audiobooks" The purpose of the study is to determine the usefulness of audio-assisted reading with audiobooks and MP3 players as an accommodation during sustained silent reading for students with documented disabilities. Effects on reading fluency and attitude will be measured. This project is being conducted to fulfill the dissertation requirement of myself, Kelli Esteves.

Your agreement to participate in the study means that students who receive special education services in your class and their parents will be contacted to seek consent for participation in the study.

If your school is selected for the treatment group, this means:

- students who receive special education services in your class will be given MP3 players that have audiobooks downloaded on them for use during classroom sustained silent reading time;
- students will be asked to listen to books while following along with the printed version of the book;
- they will be allowed to select their own reading/listening from a list of books at or just below their reading level;
- students will be expected to listen while following along whenever the class engages in sustained silent reading;
- just prior to the implementation period, I will administer a reading fluency and attitude assessment which will take approximately 10 minutes;
- the same assessment will be given just after the implementation period;
- students will miss approximately 20 minutes of instruction time for the assessments to be administered;
- you will need to house the MP3 players in your classroom;
- you will need to contact me if any problems arise.

If your school is selected for the control group, this means:

- students who receive special education services in your class will be given a reading fluency and attitude assessment at the beginning of the study and 10 weeks later at the conclusion of the study;
- the assessments will take approximately 10 minutes each; therefore, they will miss about 20 minutes of instruction time.

Students will be free at any time to choose not to participate. If a student refuses or quits, there will be no negative effect on his/her school programming. Although there may be no immediate benefits to students for participating, there may eventually be benefits to the school district and subsequently to other students in special education programs. If this method is found to be useful, then other students who receive special education services will have the benefit of increasing attitude and/or reading fluency during silent reading time.

In the classroom setting, confidentiality is limited. However, all reasonable measures will be taken to ensure data and information from this study will remain as confidential as possible. That means that your

school's name, and all student names, will be omitted from all assessment forms and a code number will be attached. The principal investigator will keep a separate master list with the names of the children and the corresponding code numbers. Once the data are collected and analyzed, the master list will be destroyed. All other forms will be retained for at least three years in a locked file in the principal investigator's office. No names will be used if the results are published or reported at a professional meeting.

The only risks anticipated are minor discomforts typically experienced by children when they are being tested and trained to use technology (e.g. boredom, frustration, mild stress during the testing situation), a limited amount of missed class time, and possible stigmatization of use of an MP3 player during classroom sustained silent reading time given that it is a variation of typical classroom practice.

Students may withdraw from this study at any time without any negative effect.

If you have any questions or concerns about this study, you may contact either me, Kelli Esteves, at 616-874-0035 or Elizabeth Whitten at 269-387-5940. You may also contact the chair of the Human Subjects Institutional Review Board at 269-387-8293 or the vice president for research 269-387-9298 with any concerns that you have.

Sincerely,

Kelli Esteves

Appendix E

Child Assent Form for Treatment Group

Child Assent Form-Treatment Group

Western Michigan University
Department of Special Education and Literacy Studies
Principal Investigator: Elizabeth Whitten, PhD
Student Investigator: Kelli Esteves

Project Title: Audio-assisted Reading with Audiobooks

I am doing a research study. A research study is a special way to find out about something. I want to find out if listening to books on an MP3 player while you follow along on the real book will help you read faster and smoother AND if it helps you like to read more.

You can be in this study if you want to. If you want to be in this study, you will be asked to read to me for a couple minutes and answer questions about whether you like to read or not. I'll have you read and answer these questions at the beginning and at the end of the study. You will also choose book titles from a list I think are right for you. I will show you how to use the MP3 player and you will listen and follow along to books during your classroom's silent reading time. For about 10 weeks, whenever the class has sustained silent reading (your teacher might call it SSR or DEAR), you will listen to books while following along.

I want to tell you about some things that might happen to you if you are in this study. You might not like to read to me and answer the questions because it means you will have to be out of your classroom for about 10 minutes. You might not like to use the MP3 player or listen to the books. You might get bored listening to the books.

If you decide to be in this study, some good things might happen to you. You might really like to listen to books. Listening to books with the MP3 player might help you be a faster and smoother reading. It might help you to like reading more. But I don't know for sure that these things will happen. I might also find out things that will help other children some day.

When I am done with the study, I will write a report about what I found out. I won't use your name in the report.

You don't have to be in this study. You can say "no" and nothing bad will happen. If you say "yes" now, but you want to stop later, that's okay too. No one will be mad at you, or punish you if you want to stop. All you have to do is tell me or your teacher you want to stop.

If you have any questions or concerns about this study, you may call either Kelli Esteves at 616-874-0035 or Elizabeth Whitten at 269-387-5940.

The stamped date and signature of the board chair in the upper right corner means this consent document is approved for use for one year by the Human Subjects Institutional Review Board. Do not participate if the stamped date is more than one year old.

If you want to be in this study, please sign your name.

I, _____, want to be in this research study.
(write your name here)

Appendix F

Parent/Guardian Consent Form for Treatment Group

Parent Guardian Consent Form-Treatment Group

Western Michigan University
Department of Special Education and Literacy Studies
Principal Investigator: Elizabeth Whitten, PhD
Student Investigator: Kelli Esteves

Your child has been invited to participate in a research project entitled "Audio-assisted Reading with Audiobooks" The purpose of the study is to determine the usefulness of audio-assisted reading with audiobooks and MP3 players during sustained silent reading. Effects on reading fluency and attitude will be measured. This project is being conducted to fulfill the dissertation requirement of myself, Kelli Esteves.

Your permission for your child to participate in this project means that your child will be given an MP3 player that has an audiobook downloaded on it for use during his or her classroom's sustained silent reading time. Your child will be asked to listen to the book while following along with the printed version of the book. He or she will be allowed to select his or her own reading/listening material from a list of books at or just below his or her reading level. Just prior to the implementation period, I will administer a reading fluency and attitude assessment which will take approximately 10 minutes. The same assessment will be given just after the implementation period. If you agree to allow your child to participate, he or she will be asked to listen while following along for approximately 20-30 minutes per day, 4-5 times per week, for 10 weeks.

Your child will be free at any time to choose not to participate. If your child refuses or quits, there will be no negative effect on his/her school programming. Although there may be no immediate benefits to your child for participating, there may eventually be benefits to the school district and subsequently to other students in special education programs. If this method is found to be useful, then other students who receive special education services will have the benefit of increasing attitude and/or reading fluency during silent reading time.

In the classroom setting, confidentiality is limited. However, all reasonable measures will be taken to ensure data and information from this study will remain as confidential as possible. That means that your child's name will be omitted from all assessment forms and will only be identified by a code number. The principal investigator will keep a separate master list with the names of the children and the corresponding code numbers. If the researchers find that this accommodation is useful for planning your child's programming, we will share the results with your child's teacher. Once the data are collected and analyzed, the master list will be destroyed. All other forms will be retained for at least three years in a locked file in the principal investigator's office. No names will be used if the results are published or reported at a professional meeting.

The only risks anticipated are minor discomforts typically experienced by children when they are being tested and trained to use the technology (e.g. boredom, frustration, mild stress during the testing situation), a limited amount of missed class time, and possible stigmatization of use of an MP3 player during classroom sustained silent reading time given that it is a variation of typical classroom practice.

You may withdraw your child from this study at any time without any negative effect on services to your child. If you have any questions or concerns about this study, you may contact either me, Kelli Esteves, at 616-874-0035 or Elizabeth Whitten at 269-387-5940. You may also contact the chair of the Human Subjects Institutional Review Board at 269-387-8293 or the vice president for research 269-387-9298 with any concerns that you have.

This permission document has been approved for use for one year by the Human Subjects Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. Do not permit your child to participate if the stamped date is more than one year old.

Your signature below indicates that you, as parent or guardian, can and do give your permission for

_____ *(please print your child's name)*

- to engage in audio-assisted reading during sustained silent reading time;
- to be given an MP3 player with a downloaded audiobook for use during sustained silent reading time;
- to be administered a pre- and posttest on reading fluency and reading attitude;
- for these scores to be reported to his/her teacher.

_____ _____

Signature Date

Permission obtained by: _____ _____

initials of researcher Date

Two copies of this letter have been provided so that you can return one signed copy to your child's special education teacher and keep one copy for your personal records. If you do not want your child to participate, please send both unsigned copies to your child's special education teacher.

Please send either the signed letter or the unsigned letters back within one week of the date at the top of the letter.

A child-friendly letter has been included. If you are interested in having your child participate, please read the letter aloud to your child. Thanks!

Appendix G

Child Assent Form for Control Group

Child Assent Form-Control Group

Western Michigan University
Department of Special Education and Literacy Studies
Principal Investigator: Elizabeth Whitten, PhD
Student Investigator: Kelli Esteves

Project Title: Audio-assisted Reading with Audiobooks

I am doing a research study. A research study is a special way to find out about something. I want to find out if reading silently in classrooms is helpful to kids and if listening to books on an MP3 player while kids follow along on the real book will help them read faster and smoother AND if it helps them like to read more.

You can be in this study if you want to. If you want to be in this study, you will be asked to read to me for a couple minutes and answer questions about whether you like to read or not. I'll have you read and answer these questions at the beginning and at the end of the study. You will also participate in sustained silent reading (your teacher might call it SSR or DEAR) time for about 10 weeks. You won't be listening to the audiobooks on MP3 players during silent reading time, but just knowing if silent reading helps you, and other kids like you, will help me make decisions for my study.

I want to tell you about some things that might happen to you if you are in this study. You might not like to read to me and answer the questions because it means you will have to be out of your classroom for about 10 minutes. But, if you decide to be in this study, some good things might happen to you. You might really like to answer my questions and you might like the feeling of helping me with my study. I might also find out things that will help other children some day. I don't know for sure that these things will happen though.

When I am done with the study, I will write a report about what I found out. I won't use your name in the report.

You don't have to be in this study. You can say "no" and nothing bad will happen. If you say "yes" now, but you want to stop later, that's okay too. No one will be mad at you, or punish you if you want to stop. All you have to do is tell me or your teacher you want to stop.

If you have any questions or concerns about this study, you may call either Kelli Esteves at 616-874-0035 or Elizabeth Whitten at 269-387-5940.

The stamped date and signature of the board chair in the upper right corner means this consent document is approved for use for one year by the Human Subjects Institutional Review Board. Do not participate if the stamped date is more than one year old.

If you want to be in this study, please sign your name.

I, _____, want to be in this research study.
(write your name here)

Appendix H

Parent/Guardian Consent Form for Control Group

Parent Guardian Consent Form-Control Group

Western Michigan University
Department of Special Education and Literacy Studies
Principal Investigator: Elizabeth Whitten, PhD
Student Investigator: Kelli Esteves

Your child has been invited to participate in the control group for a research project entitled "Audio-assisted Reading with Audiobooks" The purpose of the study is to determine the usefulness of audio-assisted reading with audiobooks and MP3 players during sustained silent reading. Effects on reading fluency and attitude will be measured. This project is being conducted to fulfill the dissertation requirement of myself, Kelli Esteves.

Your permission for your child to participate in this project means that your child will participate in the classroom sustained silent reading time for approximately 20-30 minutes per day, 4-5 times per week, for 10 weeks. At the onset of the study, I will administer a reading fluency and attitude assessment which will take approximately 10 minutes. The same assessment will be given at the conclusion of the study. Scores from control group participants will be compared with scores from the treatment group. The treatment group participants will be provided with MP3 players with downloaded audiobooks to listen to while following along during the classroom sustained silent reading time.

Please note: The school your child attends has been selected for the control group, so the only difference to his or her school programming will be the baseline and post-test assessments (which will take about 20 minutes total). Your child will not be given MP3 players with downloaded audiobooks.

Your child will be free at any time to choose not to participate. If your child refuses or quits, there will be no negative effect on his/her school programming. Although there may be no immediate benefits to your child for participating, there may eventually be benefits to the school district and subsequently to other students in special education programs. If this method is found to be useful, then other students who receive special education services will have the benefit of increasing attitude and/or reading fluency during silent reading time.

In the classroom setting, confidentiality is limited. However, all reasonable measures will be taken to ensure data and information from this study will remain as confidential as possible. That means that your child's name will be omitted from all assessment forms and will only be identified by a code number. The principal investigator will keep a separate master list with the names of the children and the corresponding code numbers. If the researchers find that this accommodation is useful for planning your child's programming, we will share the results with your child's teacher. Once the data are collected and analyzed, the master list will be destroyed. All other forms will be retained for at least three years in a locked file in the principal investigator's office. No names will be used if the results are published or reported at a professional meeting.

The only risks anticipated are minor discomforts typically experienced by children when they are being tested (e.g. boredom, frustration, mild stress during the testing situation).

You may withdraw your child from this study at any time without any negative effect on services to your child. If you have any questions or concerns about this study, you may contact either me, Kelli Esteves, at 616-874-0035 or Elizabeth Whitten at 269-387-5940. You may also contact the chair of the Human Subjects Institutional Review Board at 269-387-8293 or the vice president for research 269-387-9298 with any concerns that you have.

This permission document has been approved for use for one year by the Human Subjects Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. Do not permit your child to participate if the stamped date is more than one year old.

Your signature below indicates that you, as parent or guardian, can and do give your permission for

_____ *(please print your child's name)*

- to engage in sustained silent reading time;
- to be administered a pre- and posttest on reading fluency and reading attitude;
- for these scores to be reported to his/her teacher.

_____	_____
Signature	Date
Permission obtained by: _____	_____
initials of researcher	Date

Two copies of this letter have been provided so that you can return one signed copy to your child's special education teacher and keep one copy for your personal records. If you do not want your child to participate, please send both unsigned copies to your child's special education teacher.

Please send either the signed letter or the unsigned letters back within one week of the date at the top of the letter.

A child-friendly letter has been included. If you are interested in having your child participate, please read the letter aloud to your child. Thanks!

Appendix I

DIBELS® Sample

DORF Progress Monitoring 20

My Soccer Team

I am so happy! I just found out I can be on the soccer team. 15
We have our first practice on Saturday. We practice at my school 27
right after lunch. 30

Our team is called the Blue Bombers. Our colors are blue and 42
white so I get to wear blue shorts and a blue and white shirt. The 57
number on my shirt is seven. I'm seven years old, too. I think 70
seven must be my lucky number. 76

We play our first game next week on Saturday. I can't wait 88
to play. My dad said if I practice a lot I will do well at the games. 105
My dad is going to practice with me tonight. 114

Right after dinner my dad is going to take me to the store to 128
buy some soccer shoes and a soccer ball. Then we will play on 141
the grass by my school. My dad will help me to kick the ball and 156
to run fast and kick the ball at the same time. 167

I am so excited I don't think I will get to sleep tonight. But I 182
better sleep so that I can be rested and strong for my soccer 195
practice. 196

Retell: Total:

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71			
72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94			

DORF Progress Monitoring 1

The Ant Hill

Dad and I took a hike in the woods. We walked for a long 14
time and stopped to take a rest. We sat down on a log and had a 30
drink of water. A big hill was nearby. 38

Dad said, "Look, there's an ant hill." 45

I walked up to the hill and took a closer peek. At first it 59
looked just like a dirt hill. Then I noticed a few ants running 72
around. I looked closer. I saw little ants carrying pieces of 83
mushroom. The pieces were almost as big as the ants. 93

"What are they doing, Dad?" I asked. 100

"They're taking food inside the hill. They probably have 109
thousands of ants to feed inside." Dad said, "Watch this." He 120
gently poked a twig into a small hole on the hill. All of a sudden, 135
many ants came out. 139

"The ants are on alert, trying to protect their hill," he said. 151

I bent down to look closer. Some ants climbed on my shoes. 163

"We better leave now," Dad said. Dad and I walked and 174
walked until we were home. Now whenever I see one ant, I stop 187
and think about the city of ants they might be feeding and 199
protecting. 200

Retell: Total:

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48			
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71			
72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94			

Appendix J

Elementary Reading Attitude Survey

ELEMENTARY READING ATTITUDE SURVEY

Name _____ Date _____

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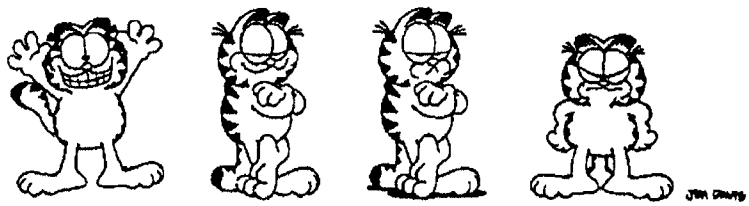
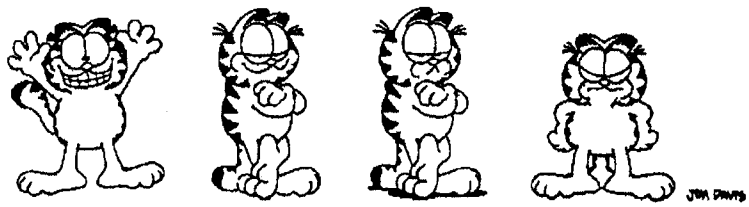
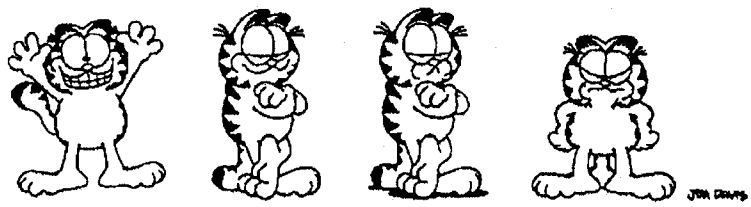
1. How do you feel when you read a book on a rainy Saturday?



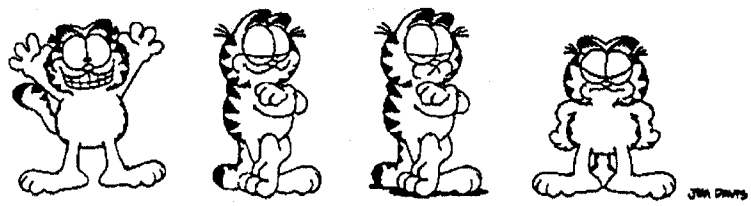
2. How do you feel when you read a book in a school during free time?



3. How do you feel about reading for fun at home?



4. How do you feel about getting a book for a present?



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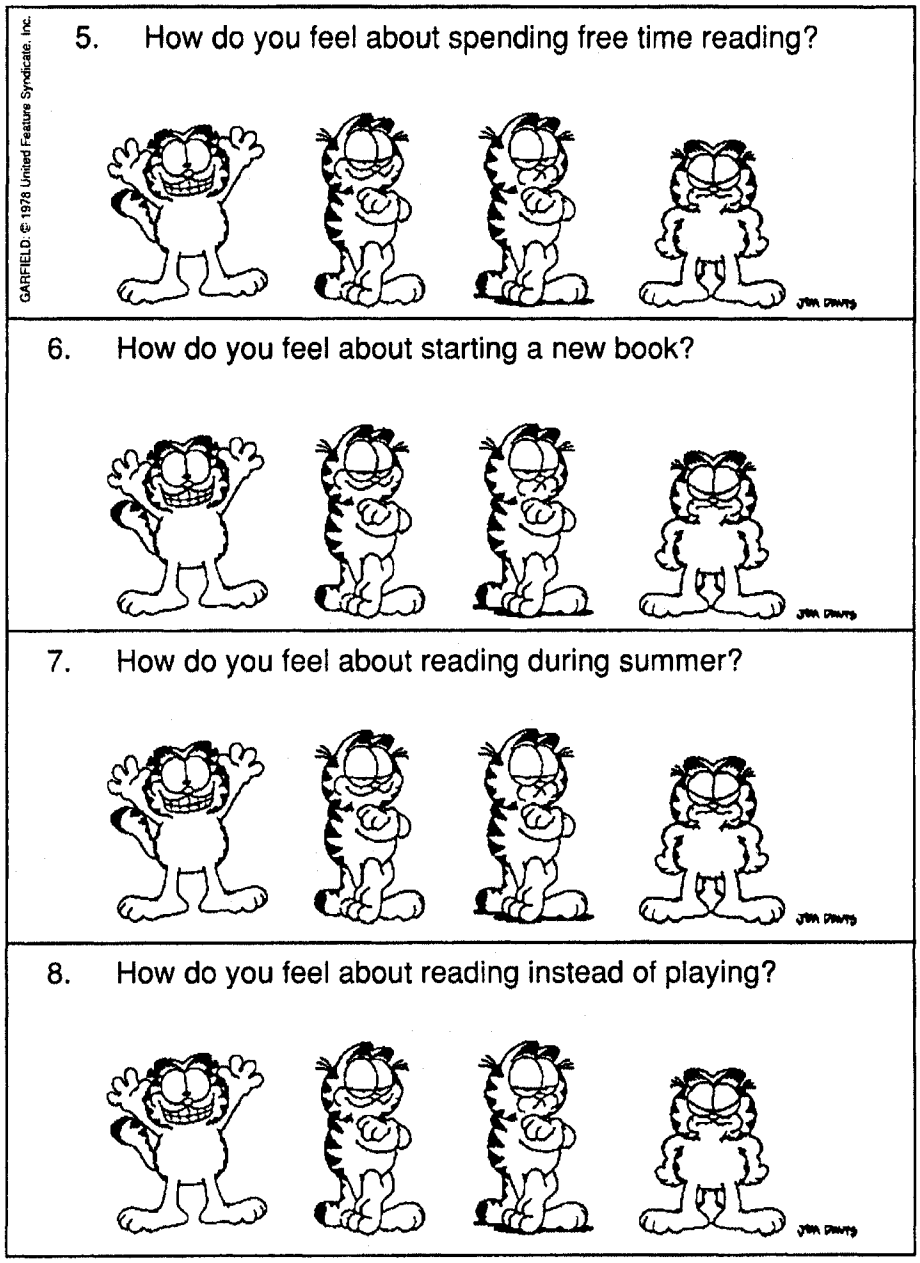
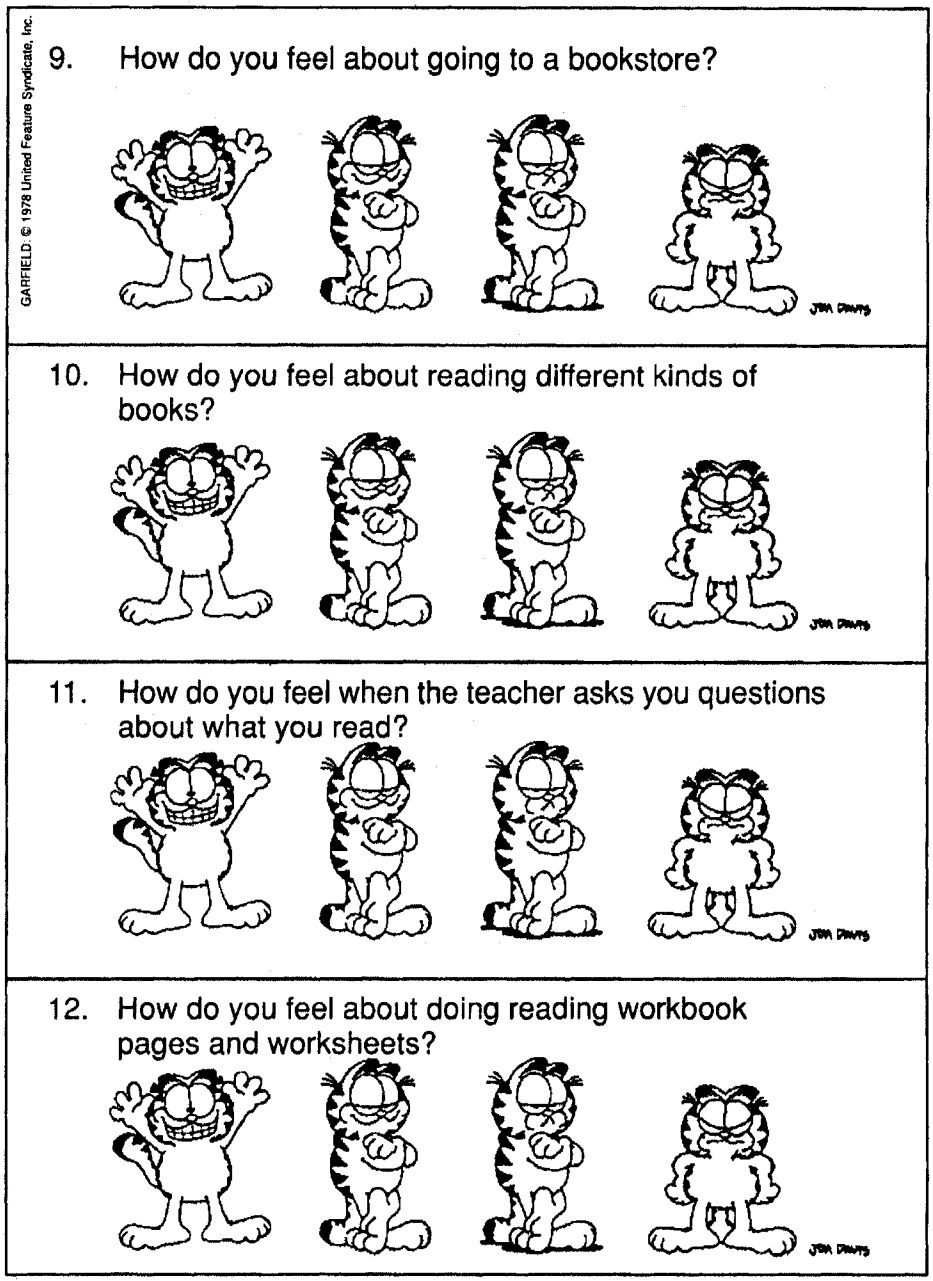


2[C] Appendix from McKenna, M. C.,& Kear, D. J. (1990, May). Measuring attitude toward reading: A new tool for teachers. The Reading Teacher, 43(9), 626-639. Reprinted with permission of the International Reading Association.



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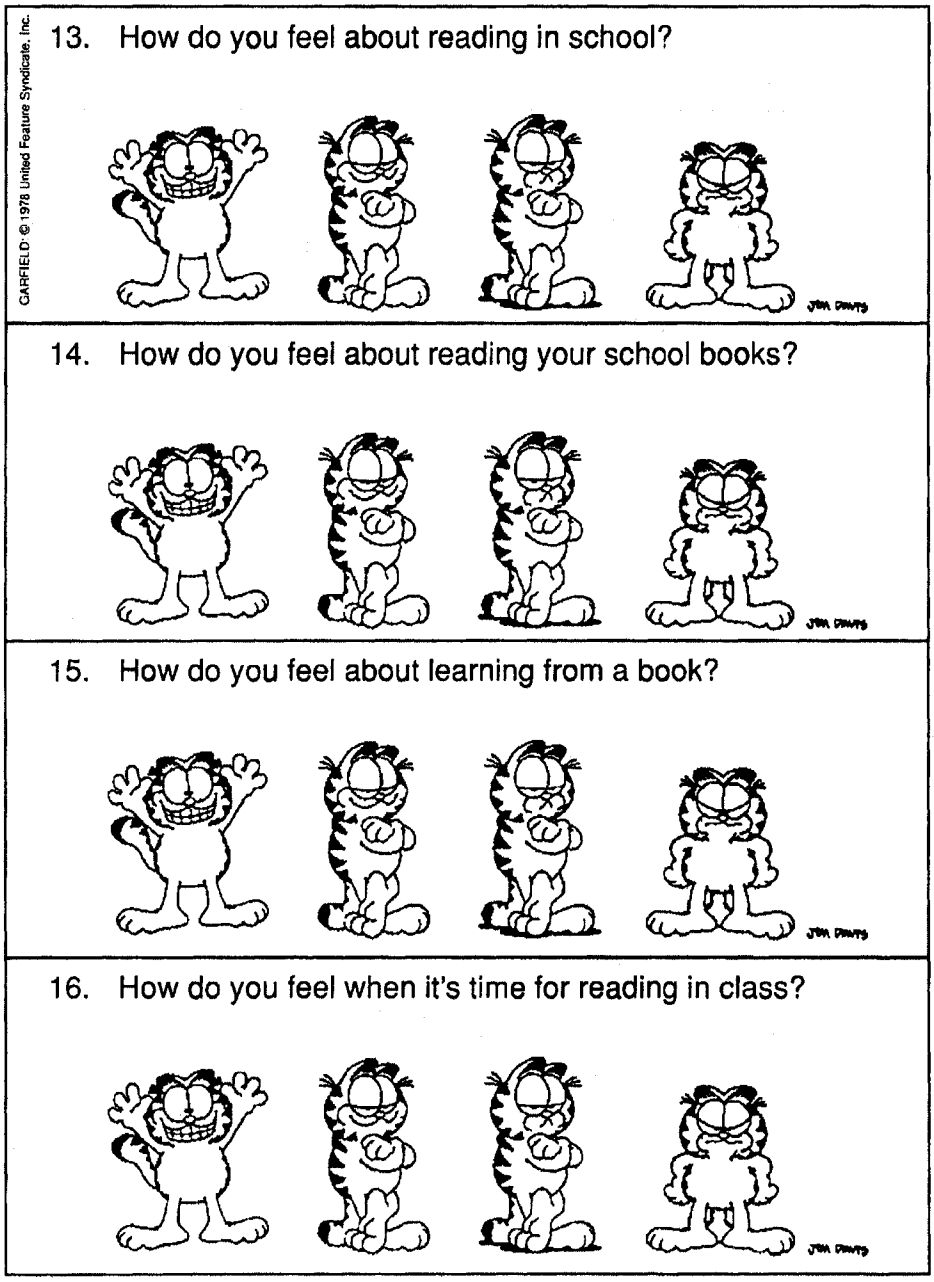

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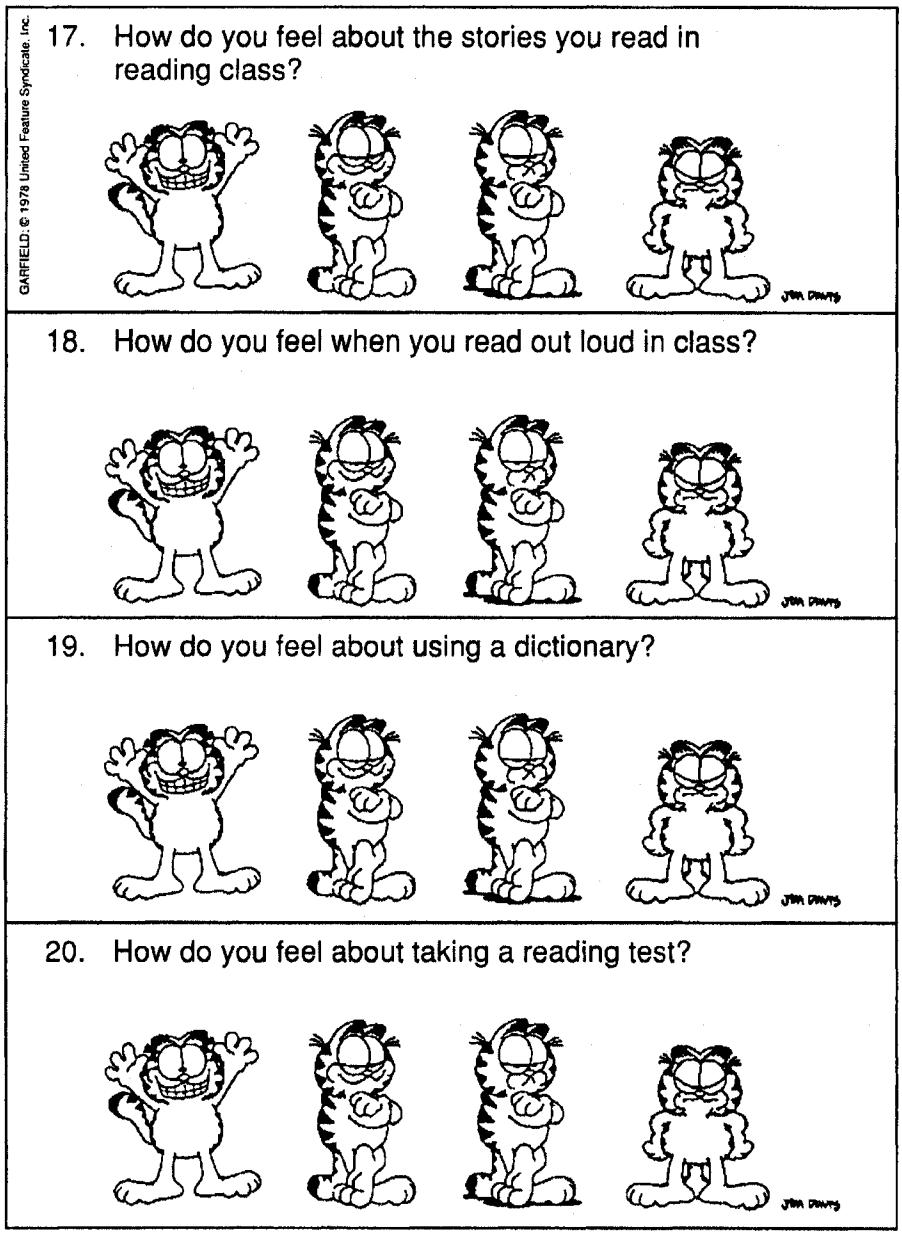

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ELEMENTARY READING ATTITUDE SURVEY SCORING SHEET

Student's Name _____

Teacher _____

Grade _____ Administration Date _____

Scoring Guide	
4 points	Happiest Garfield
3 points	Slightly smiling Garfield
2 points	Mildly upset Garfield
1 point	Very upset Garfield

Recreational reading	Academic reading
1. ____	11. ____
2. ____	12. ____
3. ____	13. ____
4. ____	14. ____
5. ____	15. ____
6. ____	16. ____
7. ____	17. ____
8. ____	18. ____
9. ____	19. ____
10. ____	20. ____
Raw score: ____	Raw score: ____

Total raw score (Recreational + Academic): ____

	Percentile Ranks
Recreational	
Academic	
Full scale	

25

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Appendix K

Digital Audiobook List

iTunes.com

All selections are between 2 to 6 hours long and geared for children ages 8-12.

Charlotte's Web
By: E.B. White
Publisher's Summary
Since its publication in 1952, *Charlotte's Web* has become one of America's best-loved children's books. For fifty years, this timeless story of the pig named Wilbur and the wise spider named Charlotte who saved him has continued to warm the hearts of readers everywhere. Now this class, a 1953 Newbery Honor Book, comes to life in a delightful unabridged recording, read lovingly by the author himself.

Superfudge
By: Judy Blume
Publisher's Summary
He knows a lot of big words, but he doesn't know where babies come from. He's never heard of a stork, but he plans to be a bird when he grows up. He's Superfudge, otherwise known as Farley Drexel Hatcher. And, according to his older brother, Peter, the biggest pain invented. Among other things.

Information compiled from www.Amazon.com and www.Audible.com.

As fans of *Tales of a Fourth Grade Nothing* already know, nothing is simple for Peter Hatcher. He is far from overjoyed at the turn the family fortunes are taking. It looks as if Peter will be spending the sixth grade far from Central Park, Sheila Tubman, Jimmy Fargo and Henry the doorman. (He won't miss Sheila.) And it also looks as is Fudge will no longer be the baby of the family. How will Peter ever survive if his new sibling is a carbon copy of Fudge?

But as Fudge fans know, bad news for Peter generally means good news for Judy Blume's readers, in the form of a very funny story.

They won't be disappointed!

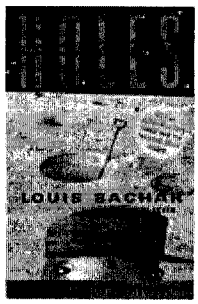
Shiloh
By: Phyllis Reynolds Naylor
Publisher's Summary
From Phyllis Reynolds Naylor comes this unabridged recording of her Newbery Award-winning tale of adventure, courage and love, the timeless and moving story of a dog in trouble and the young boy who would save him.

Eleven-year-old Marty Preston loves to spend time up in the hills behind his home near Friendly, West Virginia. Sometimes he takes his .22 rifle to shoot cans from the rail fence. Other times he goes up early in the morning just to sit and watch the fox and deer.

But one summer Sunday, Marty comes across something different on the road just past the old Shiloh schoolhouse, a young beagle, and that's where the trouble begins.

What do you do when a dog you suspect is being mistreated runs away and comes to you? When the man who owns the dog has a gun? This is Marty's problem, and it is one he will have to face alone. Soon Marty will have to put his courage on the line, discovering in the process that it is not always easy to separate right from wrong. Sometimes, however, a boy will do almost anything to save a dog.

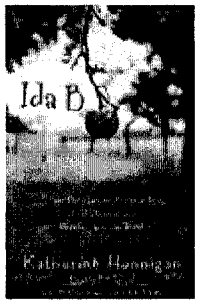
Information compiled from www.Amazon.com and www.Audible.com.



Holes
By: Louis Sachar
Publisher's Summary
Stanley Yelnats isn't so surprised when a miscarriage of justice sends him to a juvenile detention center. After all, his family has been ridden with bad luck ever since a one-legged gypsy put a curse on his great-great grandfather. He is told that the hard labor he must perform, digging five-foot holes in the dried up soil where Green Lake once sat, is meant to build character. But it soon becomes clear to Stanley that the warden is really using the boys to search for something very valuable. The story of the hidden treasure, along with the warden, Stanley's friend Zero, and the curse on the Yelnats family are all part of a compelling puzzle that has taken generations to unravel.

Peter Pan
By: J.M. Barrie
Publisher's Summary
Fly away with Peter Pan to the enchanted island of Neverland! This first chapter book adaptation of the classic novel, originally published in 1911, tells the story of the boy who never grows up. And when they join Peter on his magical island, Wendy and her brothers are in for exciting encounters with mermaids, an Indian princess, and pirates! Let the amazing adventures begin!

Read by Jim Dale



Ida B...and Her Plans to Maximize Fun, Avoid Disaster, and (Possibly) Save the World
By: Katherine Hannigan

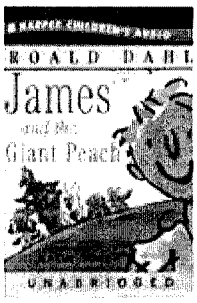
Publisher's Summary
Ida B. Applewood is a fourth grader like no other, living a life like no other, with a voice like no other, and a family like no other, and her story will resonate long after this audiobook has ended. How does Ida B. cope when outside forces, life, really, attempt to derail her and her family and her future? She enters her Black Period, and it is not pretty. But then, with the help of a patient teacher, a loyal cat and dog, her beloved apple trees, and parents who believe in the same things she does (even if they sometimes act as though they don't), the resilience that is the very essence of Ida B. triumphs...and Ida B. Applewood takes the hand that is extended and starts to grow up.

The School Story
By: Andrew Clements
Publisher's Summary
Twelve-year-old Natalie Nelson has written a powerful school story. It's a short novel called "The Cheater," and her best friend Zoe is certain it should be published. All Natalie has to do is give the manuscript to her mom, an editor at a big publishing house. However, Natalie doesn't want any favors from her mom. Still, Zoe won't drop the idea.

Spurred into action, Natalie invents a pen name for herself, and Zoe becomes a self-styled literary agent. But if the girls are to succeed, they'll need support from their wary English teacher, legal advice from Zoe's tough-talking father, and some clever maneuvering to outwit the overbearing editor-in-chief of Shipley Junior Books.

Matilda
By: Roald Dahl
Publisher's Summary
"The Trunchbull" is no match for Matilda!

Who put superglue in Dad's hat? Was it really a ghost that made Mom tear out of the house? Matilda is a genius with idiot parents, and she's having a great time driving them crazy. But at school things are different. At school there's Miss Trunchbull, two hundred menacing pounds of kid-hating headmistress. Get rid of the Trunchbull and Matilda would be a hero. But that would take a superhuman genius, wouldn't it?



James and the Giant Peach
By: Roald Dahl
Publisher's Summary
When James Henry Trotter accidentally drops some magic crystals by the old peach tree, strange things start to happen. The peach at the top of the tree begins to grow, and before long it's as big as a house. Then James discovers a secret entranceway into the fruit, and when he crawls inside, he meets a bunch of marvelous oversized friends: Old-Green-Grasshopper, Centipede, Ladybug, Miss Spider, and more.

Information compiled from www.Amazon.com and www.Audible.com.

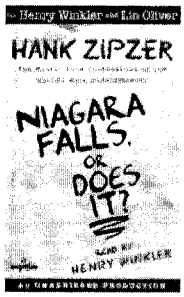
After years of feeling like an outsider in the house of his despicable Aunt Sponge and Aunt Spiker, James has finally found a place where he belongs. With a snip of the stem, the peach starts rolling away, and the exciting adventure begins!

The BFG
By: Roald Dahl
Publisher's Summary
"Well, first of all, " said the BFG, "human beans is not really believing in giants, is they? Human beans is not thinking we exist."

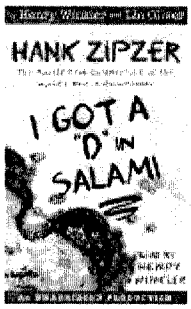
Sophie discovers that giants not only exist, but that there are a great many of them who like to guzzle and swallomp nice little chiddlers. But not the Big Friendly Giant. He and Sophie cook up an ingenious plot to free the world of troggle-humping -- forever.

Ramona Quimby, Age 8
By: Beverly Cleary
Publisher's Summary
Mr. Quimby's going to college, Mrs. Quimby's going to work. Now that Ramona is eight, she can go to a new school with a new teacher and ride the bus all by herself. But after school she has to stay with Grandmother Kemp and be nice to that bratty little Willa Jean until Beezus (who's tempermental enough to ruin anyone's day) comes to take her home. Life isn't as easy for

Ramona as it used to be. All the Quimbys have to adjust, and Ramona gets her chance to prove that she's "big enough for her family to depend on."

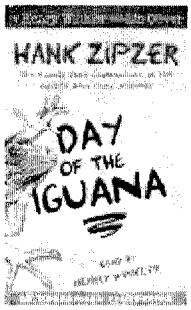


Niagara Falls or Does It?
By: Henry Winkler and Lin Oliver
Publisher's Summary
For Hank, fourth grade does not start out on the right foot. First of all, he gets called to the principal's office on the very first day of school. Then the first assignment his teacher gives him is to write five paragraphs on "What You Did This Summer." Hank is terrified-writing one good sentence is hard for him, so how in the world is he going to write five whole paragraphs? Hank comes up with a plan: instead of writing what he did on vacation, he'll show what he did. But when Hank's "living essay" becomes a living disaster, he finds himself in detention. Strangely enough, however, detention ends up becoming a turning point in his life.

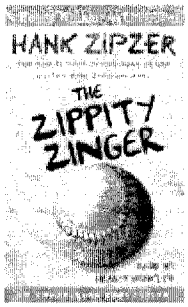


I Got A "D" in Salami
By: Henry Winkler and Lin Oliver
Publisher's Summary
It's report card day-the most dreaded day in Hank's school year. And when Hank gets his grades, they're his worst nightmare come true: a D in spelling, a D in reading, a D in math. After school, Hank and his friends go to his mom's deli. His mom is on the prowl-she knows a report card day when she sees one. Hank tries to stall her, but she's going for his backpack. He's cornered.

Hank hands the report card off to his friend Frankie, who gives it to his friend Ashley, who gives it to Robert, who puts it into a meat grinder! Hank watches as his Ds are ground into a big salami, and this particular salami is being made for a very important client. How will Hank get out of this one?

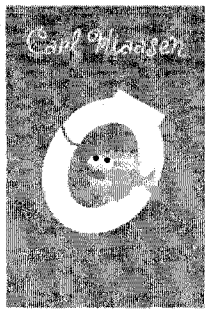


Day of the Iguana
By: Henry Winkler and Lin Oliver
Publisher's Summary
It's science-project time in Ms. Adolf's class, and Hank is in the doldrums. He loves science--the experiments, the labs, the equipment--but he hates the report part--the hypothesis, the methodology, the conclusions. Hank turns to TV to take his mind off things, which becomes another annoyance when the program directory scrolls by too quickly for Hank to know what's on when. So he decides to take apart the cable box to try slowing down the crawl. And it'll make a great science project, too! But Hank wasn't counting on his sister Emily's iguana laying eighteen eggs in the disassembled cable box!
How's Hank going to get out of this one?



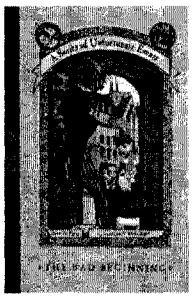
The Zippity Zinger
By: Henry Winkler and Lin Oliver
Publisher's Summary
Hank LOVES baseball. L-O-V-E-S it! Unfortunately, though, he's not very good at the game. So everyone is surprised--including Hank himself--when Hank throws a zinger pitch at a practice for P.S. 87's annual School Olympiad baseball game. Hank knows how he pitched the "Zippity Zinger"--it must have

happened because he accidentally wore his sister Emily's lucky monkey socks! Because of that stellar pitch, Hank has been chosen to pitch for P.S. 87 for the Big Game. The pressure is on--Hank's got to wear those socks again, or risk blowing the biggest ball game of his life. The only problem is, Emily wants to wear the lucky monkey socks herself since she's competing in the Brain Buster for the Olympiad. Will Hank be able to pull off another Zippity Zinger--or will he strike out?



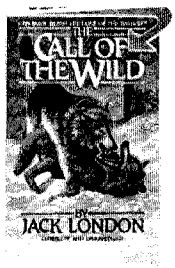
Flush
By: Carl Hiaasen
Publisher's Summary
You know it's going to be a rough summer when you spend Father's Day visiting your dad in the local lockup. Noah's dad is sure that the owner of the *Coral Queen* casino boat is flushing raw sewage into the harbor–which has made taking a dip at the local beach like swimming in a toilet. He can't prove it though, and so he decides that sinking the boat will make an effective statement. Right. The boat is pumped out and back in business within days and Noah's dad is stuck in the clink. Now Noah is determined to succeed where his dad failed. He *will* prove that the Coral Queen is dumping illegally . . . somehow. His allies may not add up to much–his sister Abbey, an unreformed childhood biter; Lice Peeking, a greedy sot with poor hygiene; Shelly, a bartender and a woman scorned; and a mysterious pirate–but Noah's got a plan to flush this crook out into the open. A plan that should sink the crooked little casino, once and for all.

Information compiled from www.Amazon.com and www.Audible.com.



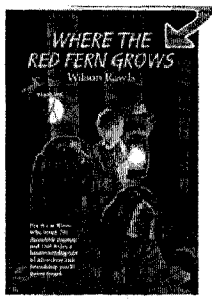
The Bad Beginning (A Series of Unfortunate Events, Book 1)
By: Lemony Snicket
Publisher's Summary
Violet, Klaus, and Sunny Baudelaire are intelligent children. They are charming, and resourceful, and have pleasant facial features. Unfortunately, they are exceptionally unlucky.

In the first two books alone, the three youngsters encounter a greedy and repulsive villain, itchy clothing, a disastrous fire, a plot to steal their fortune, a lumpy bed, a deadly serpent, a large brass reading lamp, a long knife, and a terrible odor.



The Call of the Wild
By: Jack London
Publisher's Summary
Kidnapped form his safe California home. Thrown into a life-and-death struggle on the frozen Artic wilderness, half St. Bernard, half Shepard, Buck learns many hard lessons as a sled dog: the lesson of the leash, of the cold, of near-starvation and cruelty. And, the greatest lesson he learns from his last owner, John Thornton: the power of love and loyalty. Yet always, even at the side of the human he loves, Buck feels the pull in his bones, an urge to answer his wolf ancestors as they howl to him.

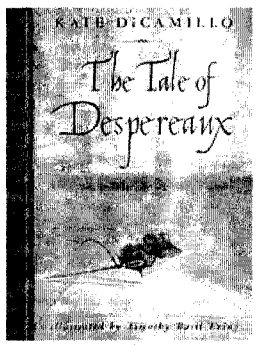
Information compiled from www.Amazon.com and www.Audible.com.



Where the Red Fern Grows
By: Wilson Rawls
Publisher's Summary
Billy, Old Dan and Little Ann -- a Boy and His Two Dogs...

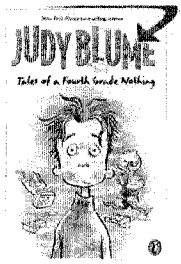
A loving threesome, they ranged the dark hills and river bottoms of Cherokee country. Old Dan had the brawn, Little Ann had the brains -- and Billy had the will to train them to be the finest hunting team in the valley. Glory and victory were coming to them, but sadness waited too. And close by was the strange and wonderful power that's only found...

An exciting tale of love and adventure you'll never forget.

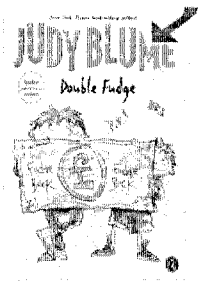


The Tale of Despereaux
By: Kate DiCamillo
Publisher's Summary
The adventures of Desperaux Tilling, a small mouse of unusual talents, the princess that he loves, the servant girl who longs to be a princess, and a devious rat determined to bring them all to ruin.

Information compiled from www.Amazon.com and www.Audible.com.

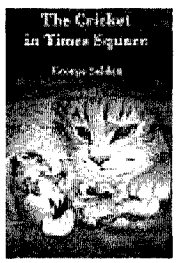


Tales of a Fourth Grade Nothing
By: Judy Blume
Publisher's Summary
Peter Hatcher feels like a fourth grade nothing now that Fudge, his two-year-old brother, is always throwing tantrums and finding new ways to get into trouble. How can Peter get his parents to pay attention to him for a change?
Reading Level: 3



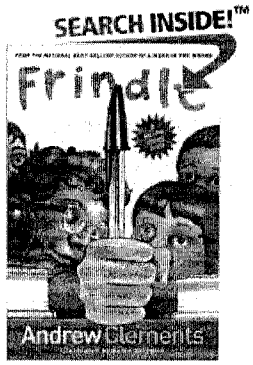
Double Fudge
By: Judy Blume
Publisher's Summary
In this delightful continuation of Fudge's adventures, Peter is now in seventh grade and his younger brother, Fudge, is now in Kindergarten. Fudge, to Peter's dismay, is obsessed with learning about money. Where does it comes from, how do you get it, and what can you get with it? From creating "Fudge-Bucks" to picking out his birthday presents years in advance, Fudge's new obsession embarrasses Peter, as usual. Toss in some long-lost Hawaiian relatives, and Peter can tell that the beginning of this school year is going to be a little different.
Reading Level: 3

The Summer of Riley
By: Eve Bunting
Publisher's Summary
When 11-year-old William goes to the pound, he picks out the perfect dog right away: a big, silky, yellow lab. When they get home, Riley acts as if he has lived with William all his life. The boy promises to always keep his dog safe. But when Riley chases a neighbor's aging horse, the animal control officer takes him away. According to local law, Riley must be destroyed. Now William has just 21 days to save his beloved dog. In a town where opinions about animals are deeply divided, it isn't going to be easy.
Reading Level: 3



The Cricket in Times Square
By: George Selden
Publisher's Summary
Comfortably snuggled beside the remnants of a liverwurst sandwich, Chester Cricket fell asleep in the picnic basket. When he leaps out of the basket, he is far from his Connecticut meadow home, in the middle of the Times Square subway station in New York City. Making friends with the street-wise mouse; a tomcat with a soft-spot for opera; and a small boy named Mario; Chester discovers a talent hidden deep inside him. Just maybe this little country cricket can teach these tough New Yorkers a thing or two. When it was first published *The Cricket in Times Square*, Selden's most famous book, was the first animal fantasy story to take place exclusively in the city. A Newbery Honor Book, as well as an ALA Notable Book, *The Cricket in Times Square* has become a favorite with readers across the world.
Reading Level: 4

Information compiled from www.Amazon.com and www.Audible.com.



Frindle
By: Andrew Clements
Publisher's Summary
He really just likes to liven things up at school -- and he's always had plenty of great ideas. When Nick learns some interesting information about how words are created, suddenly he's got the inspiration for his best plan ever...the frindle. Who says a pen has to be called a pen? Why not call it a frindle? Things begin innocently enough as Nick gets his friends to use the new word. Then other people in town start saying frindle. Soon the school is in an uproar, and Nick has become a local hero. His teacher wants Nick to put an end to all this nonsense, but the funny thing is frindle doesn't belong to Nick anymore. The new word is spreading across the country, and there's nothing Nick can do to stop it.

Moose Tracks
By: Mary Casanova
Publisher's Summary
There is nothing Seth enjoys more than riding his horse, Quest, through the frozen wilderness of northern Minnesota. But Seth's father, a game warden, warns that danger may be nearby. Someone is breaking the law by hunting black bear and moose for profit.

Information compiled from www.Amazon.com and www.Audible.com.

While following animal tracks deep into the woods, Seth and Quest discover a moose cow and her calf. Suddenly, gunshots ring out! The calf is wounded and its mother killed. Seth and the poachers he was warned about have just come face-to-face. Now, not only are the forest's animals in danger, but Seth and his family are as well.

Mary Casanova, a Minnesota resident, crafts an exciting tale filled with authentic, vivid descriptions of the great outdoors. Johnny Heller's gripping narration will have listeners checking over their shoulders as Seth heads deeper and deeper into a perilous situation.

Reading Level: 4

Information compiled from www.Amazon.com and www.Audible.com.

Appendix L

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