

The Influence of Text Topic Interest on Reading Performance

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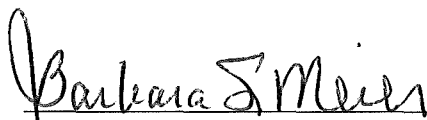
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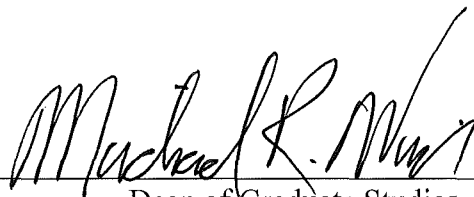
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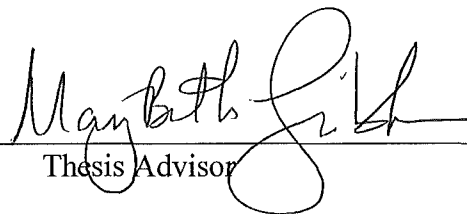
Dean of Graduate Studies

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Under the Supervision of Dr. Mary Beth Leibham

The current study examined the effects of text topic interest on children's reading performance, particularly within the context of a reading intervention program. Participants included four late elementary school children who were enrolled in a summer reading program at a Midwestern regional state university. At the beginning of the study, various text topics were presented visually and participants were asked to rate their interest in each text topic using a visual scale. Using a multiple baseline design, participants were then presented with low-interest reading text before they switched to high-interest text. Oral Reading Fluency (ORF) and reading comprehension performance were examined as functions of text topic interest. Results revealed no effect of text topic interest on reading performance.


Thesis Advisor

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CHAPTER I

Introduction

Statement of the Problem

Reading is a fundamental skill needed for academic success and is essential for people to thrive in their day-to-day lives. Literacy skills are required in nearly every academic domain and are necessary for daily activities such as grocery shopping, using computers, reading road signs, and searching for jobs. However, despite the importance of this skill, the prevalence of deficient reading skills is alarming. A recent National Assessment Education Progress Report reported that 33% of fourth grade students and 24% of eighth grade students are reading below basic levels (National Center for Education Statistics, 2011). According to the Center for Education Reform, 25% of high school seniors do not have basic reading skills (Hawkins, Hale, Sheeley & Ling, 2011). Furthermore, a recent study reported that approximately 40% of students in the United States have not yet achieved reading fluency (Begeny, Krouse, Ross & Mitchell, 2009).

Risk factors underlying reading difficulties include poverty, cultural differences, neurological deficits, inadequate instruction, familial history, and limited opportunities for reading remediation and enrichment (Swanson et al., 2011). Reading skill deficits likely contribute to adverse outcomes such as grade retention, dropout, and poor academic achievement (Malmgren, Edgar, & Neel, 1998). The prevalence of reading difficulties and the importance of literacy skills highlight the need for early evidence-based reading interventions.

Purpose of the Study

The current study aimed to contribute to the existing literature on reading interventions by examining the role of interest in the effectiveness of reading interventions. Specifically, the purpose of the current study was to examine the impact of text topic interest on oral reading fluency and/or reading comprehension performance for four late elementary school children who were enrolled in a summer reading program at a Midwestern regional state university.

Research Questions

1. Does text topic interest influence oral reading fluency performance in a reading intervention?
2. Does text topic interest influence reading comprehension performance in a reading intervention?

CHAPTER II

Review of the Literature

Components of Reading

The National Reading Panel, a committee appointed by the National Institute of Child Health and Human Development (NICHD) and charged with the task of examining the current status of reading research, reported that effective core reading instruction must address five components of reading development: phonemic awareness, phonics, vocabulary, fluency, and comprehension (2000). Phonemic awareness is the ability to recognize and manipulate spoken sounds or phonemes, auditorily associate letters with their corresponding sounds, blend letter sounds together, and break apart the sounds. It includes skills such as rhyming, comparing words, sentence and syllable segmentation, blending, and the manipulation and deletion of phonemes. Decoding, or the “sounding out” of words, is part of phonemic awareness and is one of the most important skills needed for success in reading because the English language is far too complex to learn word by word (Shapiro, 2011).

According to the National Reading Panel (2000), phonics instruction refers to teaching students letter-sound correspondence and how to use this knowledge to spell and read words. It is typically used with beginning readers in primary grades and with students who struggle to learn to read. Vocabulary further develops throughout the learning to read process. As learners begin to read, reading vocabulary that they encounter in texts is mapped onto the oral vocabulary that the learner has already acquired in their lifetime (National Reading Panel, 2000). The oral vocabulary of readers is important for learning to make the transition from oral to written forms and reading

vocabulary is essential to readers reading comprehension abilities (National Reading Panel, 2000).

Fluency refers to the ability to engage in oral reading quickly, accurately, and with proper expression. Oral Reading Fluency is measured by how many words a child can read accurately in one minute. Reading comprehension is the process of simultaneously extracting and constructing meaning from written text (Shapiro, 2011). It is critical for effective reading and refers to the ability to understand what one reads. Not surprisingly, reading comprehension performance is related to reading fluency (Sindelar, Monda, & O'Shea, 1990). The speed and accuracy with which readers can process the text they are reading affects how well they will subsequently comprehend the information from it (Hasbrouck, Ihnot, & Rogers, 1999). Reading development models indicate that reading fluency is a very important component of efficient reading (Stahl, 2004). If a child is struggling with fluency, they will likely struggle with comprehension as well because they are unable to decode words quickly and accurately enough to understand what they read (Shapiro, 2011). This link between reading comprehension and reading fluency has been consistently demonstrated (Kuhn & Stahl, 2003; LaBerge & Samuels, 1974; Shinn & Good, 1992; Slocum, Street, & Gilberts, 1995). Further, Daane et al. (2005) demonstrated that reading fluency is positively correlated with overall reading ability, which further illustrates the importance of oral reading fluency development. The National Reading Panel (2000) posited that oral reading practice with correctional feedback was the most effective instructional procedure to improve word recognition, oral reading fluency, and reading comprehension.

In addition to these five components, knowledge of alphabetic principle is essential for reading. The National Reading Panel (2000) defines alphabetic principle as the ability to map sounds to print. In order to achieve this ability, children need to learn letter-sound correspondence and how to read connected text (i.e., words in sentences and paragraphs as opposed to words in isolation).

Given the complexity of the reading process, the number of students who are reading below basic levels, and the fact that 57% of referrals for special education evaluation are due to reading problems, the demand for reading interventions is high (Bramlett, Murphy, Johnson, & Wallingsford, 2002; National Center for Education Statistics, 2011). Reading interventions can accelerate the transition from learning to read, or improving reading skills through practice and feedback, to reading to learn, where students are fluent with reading skills and use them to acquire knowledge (Joseph, 2008).

Common Reading Interventions

There are several types of reading interventions currently used by practitioners, some of which target reading fluency and reading comprehension. Three examples of commonly used reading interventions are repeated reading, listening passage preview, and sight words or text previewing. Repeated reading (RR) is most commonly used with children who have fluency difficulties. In this type of intervention, children are asked to repeatedly read a passage aloud a specific number of times. Typically, three to four repetitions are needed to see improvement in reading performance. Interventionists using RR have the option to time passages and use passages of different lengths as long as there is repetition occurring (Hawkins et al., 2011).

Repeated reading is supported by the automaticity theory (LaBerge & Samuels, 1974). Given that automaticity refers to the ability to perform complex tasks using few attentional resources, this theory implies that within the context of reading, fluent readers should be able to simultaneously decode and comprehend text. Individuals who are not fluent readers are likely using their attentional resources to decode the words being read rather than comprehending what they are reading. Those readers who are fluent, on the other hand, can use their attentional resources to comprehend what they are reading (LaBerge & Samuels, 1974).

Due to the repetition and practice with grade-level reading material, RR has been found to improve reading fluency and comprehension in children with learning disabilities (Begeny et al., 2009). A comprehensive meta-analysis of RR found that repeated reading improved reading fluency and reading comprehension in both children with disabilities and children without disabilities (Therrien, 2004). It was also clear in this meta-analysis that these improvements are likely to transfer to new passages. In other words, children's reading fluency and comprehension skills show improvement in passages that were not included in the intervention (Therrien, 2004). Additionally, Nelson, Alber, and Grody (2004) found that coupling RR with error correction procedures enhances reading fluency gains and comprehension skills (Therrien, 2004).

When adults read to children, it can increase the likelihood of positive socio-emotional outcomes (e.g., attachment), language and literacy development, and children's motivation to read (Swanson et al., 2011). Listening passage preview (LPP) involves this practice of reading to children by allowing the child to listen as the selected reading material is read to them by a model, such as a parent or peer, before they are asked to

read it out loud. While the material is being read, they are asked to follow along with their fingers to keep them engaged in the reading process (Begeny et al., 2009).

Guzel-Ozmen (2011) found that LPP improves children's oral reading fluency, accuracy, and comprehension. McCurdy, Cundari and Lentz (1990) found that elementary children improved their oral reading skills by first observing a model read a passage proficiently before reading the passage on their own. The modeling procedure that is part of LPP is effective for improving oral reading fluency because the child has been exposed to the text before they are asked to read it (Daly & Martens, 1994; Skinner et al., 1993). According to Hale et al. (2005), the modeling procedure is effective for improving reading comprehension because students aren't using cognitive resources to read along and therefore, have more attentional resources available to comprehend the information being presented. When listening passage preview is used in combination with repeated reading, the interventionist reads the passage to the child first and then instructs him or her to read the passage repeatedly. Guzel-Ozmen (2011) found that the combination of LPP and RR improves reading fluency, likely because of the combination of repetitive practice and auditory exposure to the text.

Vocabulary previewing (VP), or reviewing sight words prior to the passage, is an intervention used with the intent of either expanding the child's vocabulary or improving their reading fluency. The student is provided with target words before they read a passage and sometimes the definitions of the target words are also included. They review them with the adult who is providing the intervention several times to learn them and achieve automaticity (Hawkins et al., 2011). Burns et al. (2011) found that VP increased reading fluency in students. One possible reason for this is that reviewing the target

words made decoding more effortless. When vocabulary previewing is used in combination with repeated reading, target words are presented and then the child reads the passage repeatedly. Hawkins et al. (2011) found that the combination of repeated reading and vocabulary previewing led to higher oral reading fluency scores.

Reading, Single-Case Design, and Visual Analysis

Single-case designs (SCD) “often involve repeated, systematic measurement of a dependent variable before, during, and after the active manipulation of an independent variable (e.g., applying an intervention)” (Kratochwill et al., 2010, p. 2). SCDs can provide a basis for establishing causal inference through an experimental evaluation of intervention effects (Kratochwill et al., 2010). Contrary to what their name implies, SCDs are often used with small groups. According to Riley-Tillman and Burns (2009), SCDs are a class of experimental methodology that, when applied to educational interventions, document three things. First, SCD are used to discern whether an outcome variable (e.g., Oral Reading Fluency scores, percentage of comprehension questions answered correctly) changed when an intervention (e.g. high text topic interest) was introduced and implemented. The second purpose of SCD is to determine whether any observed change in the outcome variable was due to the implementation of the intervention and not some other variable (e.g., expertise in topic). Third, SCDs are meant to determine whether the information learned from the educational intervention can be generalized to other similar situations (Riley-Tillman & Burns, 2010). The use of SCD is ideal for educational practice because educational professionals can use it to make “defensible judgments” about the effectiveness of evidence-based interventions for individual students. In other words, by using an appropriate SCD, they are able to examine the impact of interventions

(e.g. independent variables) on outcome measures (e.g. dependent variables) for one student (Riley-Tillman & Burns, 2010).

The current study employed a multiple baseline, across participants design, which is a complex single-case design. Multiple baseline designs accomplish replication across participants or settings, using the same outcome variable and treatments, with staggered implementation of the treatment across conditions (Riley-Tillman & Burns, 2009). In a multiple baseline, across participants design, it is the time between each participant's treatment implementation that allows for experimental control (Riley-Tillman & Burns, 2009). For example, if Participant 1 just started the treatment phase, they may experience an immediate increase in level and trend of the outcome variable. In the meantime, if Participants 2 and 3 remain constant until they begin the treatment phase in staggered increments, and then also experience an increase in level and trend, the effect has been replicated across participants.

According to Riley-Tillman and Burns (2009), traditional visual analysis of single-subject design data includes examining four components. First, changes in level, as described by the mean and/or median of the data from the baseline to the intervention phase should be examined. For example, in this case, the mean and median of the ORF data in the baseline and intervention phases was examined in order to determine whether there was a change in level. Second, the immediacy or latency of change indicates how quickly and how acutely the level of a given measure changed when the intervention phase was introduced. Third, a change in the variability of data indicates the consistency of a given measure from the baseline to the intervention phase. Finally, changes in trend, or the slope of change within a phase should be examined from baseline to intervention.

Reading and Interest

In addition to the basic components of reading (e.g., fluency, comprehension), an additional factor that likely plays an important role in the reading process is interest. Specifically, there are two types of interest, namely situational and individual interest. Situational interest is defined as a temporary interest, or an emotional state that is aroused because of contextual factors such as an engaging activity or captivating stimuli (Jacobs & Eccles, 2000). For example, a child who is presented with a new book on cats that has vivid images and detailed descriptions of cats may desire to learn more about cats, thus displaying a situational interest.

In contrast, individual interest is a stable, deep-rooted interest so much so that it is seen in other aspects of a person's life (Jacobs & Eccles, 2000). An individual interest typically stems from a situational interest, but not all situational interests will evolve into individual interests. If a child had an individual interest in dinosaurs for example, their interest in dinosaurs may have started when he or she received a dinosaur book for a birthday gift, but the interest would subsequently spill over into other facets. He/she would probably have dinosaur clothes, sheets, toys, and videos. The type of interest typically examined in the research on reading is situational interest. However, a study by Ainley, Hillman, and Hidi (2002) found that while individual interest in literature contributed to participants' topic interest, it was not a large contribution. Ainley, Hillman, and Hidi (2002) also found that the content of passage titles, including the character reference in the title, contributed to participants' interest in the passage. Topic interest was usually measured by self-report ratings ranging from high to low interest or by asking participants to rank text topics from most interesting to least interesting.

Situational interest in reading material has been studied more extensively and is related to reading comprehension and byproducts of reading such as mind wandering and inference generation. Guthrie, Wigfield, and Humenick (2006) found that presenting a stimulating task to go along with a related book (e.g., reading a book about owls and dissecting owl pellets) increased situational interest in the reading material and therefore, increased comprehension in students. Many studies have found that higher topic interest is positively related to reading comprehension in both child and adult participants (Asher, Hymel & Wigfield, 1978; Bray & Barron, 2003; Lin & Zabrucky, 1997; Oakhill & Petrides, 2007).

Similarly, Clinton and van den Broek (2012) found that text topic interest was related to inference generation and recall. The more interested participants were in the passage, the more inferences they were able to generate and the more ideas they were able to recall from it. Furthermore, Lin and Zabrucky (1997) discovered that the more interest the participant had in a text topic, the more confident they reported they were in their knowledge about the topic and their ability to answer inference questions. Interest is also related to mind wandering and in turn, reading comprehension. A recent study found that participants who were not interested in the passage they were reading reported more mind wandering than those who found their passage interesting, and subsequently, performed worse on the comprehension measure (Unsworth & McMillan, 2012).

Motivation. Motivation is closely related to the construct of interest and many theorists believe that interest is one of the factors underlying intrinsic motivation. Deci and Ryan (1985) and Pintrick and Schunk (1996) noted that intrinsic motivation to learn is the intention to engage in a specific learning activity because it is inherently interesting

and enjoyable. Within the context of reading, intrinsic motivation manifests as curiosity, interest, immersion, and personal satisfaction in the text, while extrinsic motivation often reflects a dependency on external factors such as teacher praise, grades, and competition with other students (Guthrie, Hoa, Wigfield, Tonks & Perencevich, 2006). Interest is positively correlated with intrinsic motivation for information texts and negatively correlated with extrinsic motivation for narrative tasks. This implies that over time, participants become motivated to read information texts for their own reasons and do not need extrinsic motivators to read a narrative text (Guthrie et al., 2006).

In addition to its link with intrinsic motivation, topic interest has been linked with persistence and value, both of which closely relate to motivation. Fulmer and Frijters (2011) found that participants value the task more if they are interested in the topic. Further, they found that topic interest was a buffer against attributions for failure and low persistence. That is, participants who were interested in the topic they were reading were less likely to make excuses for failure and were almost twice as likely to persist with the passage when given the choice. It is possible that passage topic interest could facilitate academic success and more progress during reading interventions because of its' positive association with motivation.

Gender Differences. Some studies exploring the link between interest and reading have found gender differences. Oakhill and Petrides (2007) found that boys' comprehension benefited more from situational interest than did girls' comprehension. The boys performed better when they were interested in the text they were reading while girls performed equally well regardless of interest level. Asher and Wigfield (1978) also found that boys' performance was more strongly affected by topic interest than girls'

performance. On the other hand, Bray and Barron (2003) found that both genders benefited from text topic interest with girls' comprehension benefitting more. In general, girls' reading comprehension appeared to be better than boys' reading comprehension, perhaps because girls may do more reading outside of school than boys.

Gender is also related to text topic preference in that boys and girls have different high interest and low interest topics. Ainley, Hillman, and Hidi (2002) found that girls were more interested in literature and romance passages while boys were more interested in adventure and science passages. Other research determined that boys preferred a text about spiders while girls preferred a text about World War II (Oakhill & Petrides, 2007). Guthrie et al. (2006) found that, when given the choice between a narrative or information book, girls tended to pick narrative books while boys chose information books. Interestingly, girls were more likely to persist with texts that they rated as low-interest than boys were (Ainley, Hillman & Hidi, 2002). These findings may have implications for reading interventions used with children. It could be that different passages used in reading interventions will be related to motivation levels and reading performance. Aligning boys' and girls' interests with the materials they read in school or during interventions could possibly increase their motivation and reading comprehension as shown in these studies.

While the link between text topic interest and reading comprehension has been established (Asher, Hymel & Wigfield, 1978; Bray & Barron, 2003; Lin & Zabucky, 1997; Oakhill & Petrides, 2007), little is known about the relationship between text topic interest and ORF. Since higher topic interest is positively related to reading comprehension in child and adult participants and there is a strong correlation between

ORF and comprehension, it is possible that there could be a relationship between ORF and text topic interest, with ORF being positively correlated with interest levels.

Considering that little research has investigated this particular relationship, the purpose of the current study was to extend previous research by examining both ORF and reading comprehension with regard to text topic interest.

CHAPTER III

Method

Participants

Four elementary school students (three girls, one boy) were recruited from a summer reading program provided by a Midwestern regional state university. Local schools were provided with information about the summer reading program and asked to share the information with families of low performing students. Since low performing students are targeted, most children participating in the summer program could benefit from intervention in the areas of oral reading fluency and reading comprehension. Parental informed consent was obtained for each participant.

All names have been changed to protect the confidentiality of the participants. Curriculum-based measurements were used to determine the participants' instructional levels and are further explained below. Melany, a 9-year-old girl who was entering fifth grade was reading at a fourth grade instructional level and Chris, a 9-year-old boy who was entering fifth grade was reading at a fifth grade instructional reading level. Payton, a 9-year-old girl who was entering fifth grade was reading at a fifth grade instructional level and Margaret, a 10-year-old girl who was entering sixth grade was reading at a fourth grade instructional level. Despite the fact that the summer program was geared towards struggling readers, not all of the participants were below grade level in their reading skills.

A survey level assessment (SLA) using Formative Assessment System for Teachers (FAST) probes was conducted at the beginning of the program to determine each participant's instructional reading level. Benchmark scores at or above the 25th

percentile indicate the instructional level for students when compared to the FAST norms (Christ, Ardoin, Monaghan, Van Norman, & White, 2013). Melany had just completed fourth grade and her median score on fourth grade FAST probes was 103 Words Read Correctly per Minute (WRCM), which is at the 30th percentile for the fourth grade fall benchmark. In other words, Melany's ORF instructional level is consistent with the fall of fourth grade. Chris had also completed fourth grade with a median score of 181 WRCM on fourth grade passages. This put him at the 85th percentile for the fourth grade spring benchmark, which meant that he was reading above grade level and fourth grade passages were easy for him.

Payton had just completed fourth grade as well with a median score of 118 WRCM on fourth grade passages, which is at the 30th percentile for the winter benchmark of fourth grade. This would indicate that Payton's instructional reading level was consistent with the middle of fourth grade. However, on fifth grade passages, her median score was 112 WRCM, which is at the 30th percentile for the fall benchmark of fifth grade. Margaret had just completed fifth grade with a median of 80 WRCM on fifth grade passages. This put her below the 10th percentile on the fifth grade fall benchmark. This indicated that fifth grade passages were too hard for her. The data gathered from the FAST probes indicated the participants' level of performance prior to the start of the summer program.

Measures

A survey level assessment (SLA) was conducted in order to determine each participant's instructional level. According to Shapiro (2011) an SLA consists of administering three benchmark probes at different grade levels until the students' scores

are at or above the 25th percentile when compared to national norms. The interventionist begins with the student's current grade level and administers three ORF probes. If the resulting median score of the three probes is below the 25th percentile at that grade level, they administer three benchmark probes of the grade below until they find the instructional level (i.e. median score at or above the 25th percentile). The child reads each probe for one minute and the interventionist marked errors as they read. Errors included omissions of words, substitutions, deletions of word endings, and pauses longer than 3 seconds (Shapiro, 2011).

Formative Assessment System for Teachers (FAST) probes are curriculum-based measurements of specific reading skills such as oral reading fluency whose scores were compared to FAST norms in order to determine instructional level. Curriculum-based measurements (CBMs) are a type of curriculum-based assessment that includes a standardized set of procedures that are used to measure student performance in academic areas including reading, math, and written expression (Hosp, Hosp, & Howell, 2007). The reliability and validity for CBMs within instructional contexts have been established in numerous studies and are psychometrically sound (Marston, 1989; Reschly, Busch, Betts, Deno, and Long, 2009; Wayman, Wallace, Wiley, Ticha, and Espin, 2007).

The summer program used an adaptation of the Read Naturally reading intervention program (Inholt, 1991). Read Naturally is comprised of short, nonfiction passages focusing on topics in science and social studies (e.g., Berlin Wall, The Platypus). Each passage has a picture illustrating the topic as well as four key vocabulary words and comprehension questions at the end. Vocabulary previewing has been found to improve oral reading fluency scores (Hawkins et al., 2011), which makes it a valuable

component of the Read Naturally passages. The fifth grade passages ranged from 300 to 370 words in length, included four vocabulary words to be previewed, and had seven or eight comprehension questions for the participants to complete after reading. The fourth grade passages ranged from 160 to 210 words in length, included four vocabulary words to be previewed, and had five comprehension questions to be completed by participants. The comprehension questions asked about the main idea of the story, vocabulary, and literal details that could be found by looking back at the passage. Additionally, they included inferential and short answer questions.

Oral reading fluency (ORF), the speed and accuracy with which a person can read, is measured by the words read correctly in one minute (WRCM) for each passage whereas reading comprehension is assessed by the percentage of comprehension questions answered correctly after each passage. Currently, there is no information on the reliability or validity of these outcome measures as they are part of the instructional package of Read Naturally and not true Curriculum Based Measurements (CBMs).

Childrens' text topic interest has previously been measured using several different self-report rating scale measures. The rating scales that were presented to participants to measure text topic interest were variable in each study reviewed (Ainley, Hillman & Hidi, 2002; Asher, Hymel & Wigfield, 1978; Bray & Barron, 2003; Clinton & van den Broek, 2012; Fulmer & Frijters, 2011; Guthrie et al., 2006; Lin & Zabucky, 1997; Schiefele, 1996). In the present study, participants' text topic interest for each passage was measured by using a visual scale (*1 = very interesting, 4 = not at all interesting*) that was adapted from a pain scale used in a hospital setting. Prior to the experiment, the visual scale was placed in front of the participant and the interventionist said, "I want you

to rate some topics that you can read about. Point to this face if the topic sounds very interesting to you, this one if it sounds interesting, this one if it doesn't sound very interesting, and this one if it doesn't sound interesting at all." The interventionist pointed to each face on the visual scale as she spoke. The first page of each passage was then presented to introduce the text topics to participants. It included a representative picture of the text topic and key vocabulary words embedded in the passage. For example, a fourth -grade level passage about killer whales included a picture of a killer whale next to the text and four key vocabulary words at the top such as "captured" and "hunter."

The interventionist then said, "This is a story about _____. How interested are you in reading about it? Show me on the scale." If the child asked what the animal or topic was about, the interventionist was instructed to briefly explain the topic with one sentence (e.g., "The Portugese Man-of-War is a jellyfish"). The participant was then prompted to give a rating and ratings were recorded on the Interest Rating Table. Participants indicated their interest rating orally and/or by pointing to the rating on the visual scale. This procedure was repeated for each possible passage.

Intervention

The reading intervention was implemented four days per week over a four-week time period. In each session, interventionists reviewed the vocabulary for the passage with the participant before they began reading. Then the participants read the passage for one minute and the interventionist calculated words read correctly per minute (WRCM). This "cold score" was recorded on a graph for the participant to see. Next, Listening Passage Preview (LPP) and Repeated Reading (RR) were applied to the passage, where the interventionist read the passage to the student while he/she followed along. The

student then read it back to the interventionist and this process was repeated two more times.

Throughout the LPP and RR part of the intervention, error correction was employed. When a student read a word incorrectly, the interventionist said, “That word is _____. What word?” This procedure provided the student with immediate feedback on their performance and allowed him/her to correct his/her mistakes. The student then read the passage aloud one more time while the interventionist recorded words read correctly and errors for a “hot score.” The hot score was graphed so that the student could see his or her performance level. Students then answered brief comprehension questions about the passage. Their “cold” ORF scores, “hot” ORF scores, and percentages of comprehension questions answered correctly were recorded on individual graphs to chart their progress over time.

Procedure

A survey level assessment (SLA) using FAST probes was conducted at the beginning of the program to determine each participant’s instructional reading level. The interventionist first administered the grade level FAST probe for the grade each participant had just completed. Depending on the participant’s performance on the grade-level probe, subsequent probes were at either higher or lower grade levels until a participant’s ORF score was similar to a benchmark period (e.g. fall, winter, or spring) for that grade. In order to keep material challenging, if participants’ performance on probes just below grade level still did not approximate benchmarks, the interventionists stopped if their scores fell between 70-100 with six or fewer errors (Fuchs & Deno, 1982).

Additionally, prior to the experiment, each participant rated several text topics using the visual scale. Ratings of 1 and 2 indicated high-interest passages (1 = *very interesting*, 2 = *interesting*) and ratings of 3 and 4 indicated low-interest passages (3 = *not very interesting*, 4 = *not at all interesting*) for each participant. All participants began with passages with text topics they had rated as “not at all interesting.” When they switched from low to high-interest passages, they started with text topics they had rated as “very interesting” and progressed to those rated as “interesting.” For those participants who had to read more low-interest passages, text topics they rated as “not very interesting” were read after all of the text topics rated “not at all interesting” had been read.

The study used a multiple baseline across-participants design, in which each participant began with low interest topics before high interest topics were introduced in a staggered fashion across participants. In other words, during the baseline phase, participants read passages they had rated as low interest. During the intervention phase of the study, participants read passages they had rated as high interest. It was pre-determined that a new participant would switch from low to high-interest passages every three days of intervention. The first participant to switch from low to high-interest passages was Melany who read only 3 low-interest passages. Chris read 6 low-interest passages, Payton read 9, and Margaret read 12 before switching to high-interest passages. For each passage, oral reading fluency was assessed by recording Words Read Correctly per Minute (WRCM) and reading comprehension was assessed by recording the percentage of correctly answered comprehension questions.

Fidelity and Inter-observer Agreement

Two school psychology graduate students delivered the interventions. Both interventionists participated in a 1-hour training on the procedures of the adapted Read Naturally reading intervention. Across all participants 65% of the intervention sessions were observed by second observers with an implementation checklist in order to assess implementation integrity. Second observers were undergraduate research assistants who were also trained in the procedures of the intervention. Overall, 100% of the steps of the checklist were followed correctly.

Following intervention implementation, inter-observer agreement (IOA) was calculated in order to assess the reliability of the ORF scoring. Thus, 65% of the intervention sessions across participants were observed by second raters in the summer program. Each word that the participant read during the hot reads was scored as an agreement or a disagreement between the two raters. An agreement would mean that both raters determined the participant had read a word correctly or both determined that the word was read incorrectly and was marked as an error. IOA was calculated by dividing the number of agreements by the number of agreements plus disagreements, which resulted in 99.8% agreement.

CHAPTER IV

Results

Research Question 1

The first research question inquired about whether text topic interest would influence Oral Reading Fluency performance in participants. The ORF scores from low interest and high interest passages are included in Appendix B. Two of the students experienced an upward trend in the data when high interest passages were introduced and two experienced a consistent trend across phases.

Using the traditional approach to the visual analysis of single-case design data, Melany exhibited a steep downward trend in the baseline condition of the ORF hot read measure with a mean of 122 Words Read Correctly per Minute (WRCM) and a median of 129 WRCM (range = 99-139). The level immediately increased and the trend also increased in the intervention phase with a mean of 133 WRCM and median of 131 (range = 111-156). Chris exhibited a similar trend in the baseline phase and the intervention phase. There was an immediate increase in level from his baseline phase with a mean of 146 WRCM and a median of 148 (range = 129-168) to his intervention phase with a mean of 173 and a median of 173 (range = 147-189).

Payton exhibited a flat trend and level in the baseline and intervention phases with a mean of 112 WRCM in baseline (median = 112, range = 106-132) and a mean of 116 (median = 121, range = 102-132) in the intervention phase. Margaret also exhibited consistent performance across phases. Her mean in baseline was 129.9 WRCM (median = 133.5, range = 117-141) and her mean in the intervention phase was 130.8 (median = 132.5, range = 122-142). It is important to note that Chris and Margaret may have maxed

out their skills in ORF because there are limits to how fast students can read at a given age. In other words, they were both already reading so quickly that they experienced a ceiling effect. Deno, Fuchs, Marston, and Shin (2001) conducted a study with students in first through sixth grade in which they established growth standards for these students in general and special education on oral reading fluency CBMs. They consistently found that there was greater growth for students in the earlier grades and less growth shown in ORF for students in the higher grades. This is relevant considering that the participants in this study were entering fifth and sixth grade.

Research Question 2

The second research question addressed whether high interest in reading passages would result in better reading comprehension performance as measured by the percentage of comprehension questions answered correctly. Since there were only 7 or 8 questions for the participants to answer, the difference of one question answered correctly or incorrectly resulted in more variability in the data than there actually was. Melany exhibited a flat trend in the baseline phase of the reading comprehension measure with a mean of 80% correctly answered questions and a median of 80% (range = 60-100%) correctly answered questions. The level and trend remained consistent in the intervention phase with a mean of 80% and a median of 80% (range = 60-100%).

Chris exhibited a flat trend in the baseline phase of the reading comprehension measure with a mean of 66.7% correctly answered comprehension questions and a median of 68.8% (range = 37.5-87.5%). The trend remained flat in the intervention phase with a mean of 75% and a median of 75% (range = 50-100%). Payton exhibited a flat trend in the baseline phase of the reading comprehension measure as well with a mean of

66% and a median of 57.1% (range = 37.5-100%) correctly answered comprehension questions. Her trend remained flat in the intervention phase with a mean of 53.9% and a median of 57.1% (range = 14.2-100%). There was some variability in her intervention phase scores.

Margaret exhibited a flat trend in the baseline phase of the reading comprehension measure with a mean of 90% and a median of 100% (range = 60-100%) comprehension questions answered correctly. The level and trend remained consistent in the intervention phase with a mean of 83.3% and median of 90% (range = 40-100%). There was no clear effect of text topic interest on the percentage of correctly answered comprehension questions for any of the participants. All participants experienced a consistent trend from the baseline to the intervention phase. The reading comprehension scores are included in Appendix C.

CHAPTER V

Discussion

The purpose of the current study was to examine whether text topic interest influenced oral reading fluency and/or reading comprehension performance for four late elementary school children who attended a summer reading program. Overall, this study did not reveal a clear effect of text topic interest on reading performance. Neither ORF or comprehension scores were influenced by text topic interest. While the literature on the text topic interest and oral reading fluency (ORF) is sparse, the literature on text topic interest and reading comprehension is more extensive and it implies that the two factors are positively correlated (Asher, Hymel & Wigfield, 1978; Bray & Barron, 2003; Lin & Zabucky, 1997; Oakhill & Petrides, 2007). Further, there is a strong positive correlation between ORF and reading comprehension (Kuhn & Stahl, 2003; LaBerge & Samuels, 1974; Shapiro, 2011; Shinn & Good, 1992; Slocum, Street, & Gilberts, 1995), which leads to the likelihood of a relationship between ORF and text topic interest as well. Additionally, oral reading fluency scores are often used as proxy measures for reading comprehension because comprehension is harder to measure and there is such a strong positive correlation between them. The validity of oral reading fluency as a predictor of children's future reading skills has been extensively examined and results have found a high correlation between oral reading fluency scores and word recognition and reading comprehension scores (Deno, 1985; Hosp & Fuchs, 2005; Jenkins, Fuchs, van den Broek, Espin, & Deno, 2003).

One possible reason for not finding a link between text topic interest and reading comprehension may be the limited number of questions that were asked. That is, there

may not have been enough questions to gauge participants' comprehension or to detect smaller effects of text topic interest on reading comprehension. Additionally, there were multiple types of comprehension questions that were asked (e.g., factual, inferential). There were only one or two questions of each type included at the end of the passages. Questions that are inferential as well as short answer require participants to make inferences about things that happened in the passage and require thought. Questions that were factual and related to vocabulary may not have measured how well the participant had comprehended the passage, but rather measured their background vocabulary knowledge and their ability to look back at the passage and find factual answers. Additionally, most questions were multiple choice, which only required the child to choose/recognize an answer, while an open-ended question may have prompted recall and consequently been more indicative of their comprehension of the story. Overall, the types of questions and amount of each type that were asked may have impacted the validity of the comprehension measure. In other words, the comprehension questions may not have measured what they were intended to measure, which is each participant's understanding of each passage.

It is also possible that the independent variable, interest, may not have been assessed in the most reliable or valid way. It is difficult for children to accurately report their own interest. The participants may have given an inflated interest rating or may have confused interest with knowledge and provided a rating that reflected their knowledge of the subject area instead of their interest level. Additionally, situational and individual interest are difficult constructs to conceptualize and this study did not distinguish between them. Specifically regarding text topics, one view is that text topic interest is a form of

individual interest because it is affected by an enduring interest in certain topics (Schiefele, 1996) and another view is that text topic interest is situational because interest is triggered by the topic that is presented to the child (Hidi & McLaren, 1991). Further, interest is a construct that is difficult to conceptualize in general because there are the two types that are related to each other and difficult to separate. One way of conceptualizing the difference between individual and situational interest in the literature has been that situational interest is the interestingness of the situation, while individual interest is the “interestedness” of the person in a topic or activity (Bray & Barron, 2003). In this study, there was no way to determine if each child’s reported interest was situational or individual. A more comprehensive interest assessment would have been needed to make that distinction.

While the current study may be of interest to researchers and practitioners, the data should be considered within the context of the limitations. First, there is limited information on the reliability and validity of the outcome measures because they were part of the Read Naturally instructional package. Reliability of measures is essential in psychological studies. If there are low levels of reliability, the measure is not stable across time or consistent across situations. If there are high levels of reliability, the measure is dependable, reproducible, and stable (Sattler, 2008). For example, with regard to reading, reliability of the outcome measures such as WRCM for ORF is important in order to ascertain that the scores participants are getting are repeatable and stable rather than unreliable.

The validity of an outcome measure refers to whether it measures what it is intended to measure (Sattler, 2008). A measure can’t be used with confidence if it has low validity

and isn't accurately assessing what it is intended to assess. The implications of this are that the outcome measures may not be reliable and valid indicators of the participants' current reading skills and/or their future reading performance.

Second, the psychometric properties of the visual scale used to measure text topic interest are unknown. Without this information, one can't say with certainty that the independent variable, or text topic interest, influenced any changes in the dependent variables, ORF and reading comprehension. In other words, it is unknown whether the results are a cause of the intervention or a third confounding variable such as prior background knowledge of the topic.

Third, individual interests of the participants were not measured and could have affected reading performance as well. Typically, when a child has an individual interest in something, it is stable and deep-rooted and will manifest in other aspects of their life (Jacob & Eccles, 2000). Therefore, it stands to reason that if a child has an individual interest in dinosaurs and is presented with a passage about dinosaurs during an intervention, they will have extensive background knowledge about them and will be able to answer comprehension questions easily. They may even be able to answer the questions without reading the passage first. Fourth, the current study employed a single-subject case design, in which there was a small number of participants. This limits the generalizability of results because of the small sample size.

More research is needed regarding the links between text topic interest and oral reading fluency as well as reading comprehension performance. Future research should obtain a more comprehensive assessment of participants' interest by distinguishing individual vs. situational interests. Additionally, it should employ reliable and valid

outcome measures. Assumptions can then be made about the influence of the independent variable on the dependent variable, without concern for other confounding variables such as individual interest and/or extensive background knowledge of text topics. Furthermore, future research may examine a larger sample of children and use a group design in order to improve the generalizability of findings to the general population.

If future research were to find that text topic interest is related to higher reading performance, there are potential implications for practice. For example, interventions may be more effective if the reading materials are aligned with participants' interests. Future research may indicate that using high interest passages during reading interventions will result in more student engagement and individual interest in reading itself. Additionally, implementing interventions using passages with high-interest text topics may result in higher ORF and reading comprehension scores.

References

- Ainley, M., Hillman, K., & Hidi, S. (2002). Gender and interest processes in response to literary texts: Situational and individual interest. *Learning and Instruction, 12*(4), 411-428.
- Asher, S. R., Hymel, S., & Wigfield, A. (1978). Influence of topic interest on children's reading comprehension. *Journal of Reading Behavior, 10*(1), 35-47.
- Begeny, J. C., Krouse, H. E., Ross, S. G., & Mitchell, R. (2009). Increasing elementary-aged students' reading fluency with small-group interventions: A comparison of repeated reading, listening passage preview, and listening only strategies. *Journal of Behavioral Education, 18*(3), 211-228.
- Bramlett, R. K., Murphy, J.J., Johnson, J., & Wallingsford, L. (2002). Contemporary practices in school psychology: A national survey of roles and referral problems. *Psychology in the Schools, 39*, 327-335.
- Bray, G., & Barron, S. (2003). Assessing reading comprehension: The effects of text-based interest, gender, and ability. *Educational Assessment, 9*(3-4), 107-128.
- Burns, M. K., Hodgson, J., Parker, D. C., & Fremont, K. (2011). Comparison of the effectiveness and efficiency of text previewing and pre-teaching keywords as small-group reading comprehension strategies with middle-school students. *Literacy Research and Instruction, 50*(3), 241-252.
- Christ, T. J., Ardoin, S., Monaghan, B., Van Norman, E., & White, M. J. (2013). *CBMReading: Technical Manual*. Minneapolis, MN: University of Minnesota, Department of Educational Psychology.
- Clinton, V., & van den Broek, P. (2012). Interest, inferences, and learning from texts. *Learning and Individual Differences, 22*(6), 650-663.

- Daane, M. C., Campbell, J. R., Grigg, W. S., Goodman, M. J., & Oranje, A. (2005). *Fourth-grade students reading aloud: NAEP 2002 special study of oral reading*. Washington, DC: U.S. Department of Education, National Center for Education Statistics. Government Printing Office.
- Daly, E. J., III, & Martens, B. (1994). A comparison of three interventions for increasing oral reading performance: Application of the instructional hierarchy. *Journal of Applied Behavior Analysis, 29*, 507–518.
- Deci, E.L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deno, S. L. (1985). Curriculum-based measurement: The emerging alternative. *Exceptional Children, 18*, 19–32.
- Deno, S. L., Fuchs, L. S., Marston, D., & Shin, J. H. (2001). Using curriculum-based measurement to establish growth standards for students with learning disabilities. *School Psychology Review, 30*, 507–524.
- Fuchs, L., & Deno, S. (1982). *Developing goals and objectives for educational programs* [Teaching Guide]. Minneapolis, MN: Institute for Research in Learning Disabilities, University of Minnesota.
- Fulmer, S. M., & Frijters, J. C. (2011). Motivation during an excessively challenging reading task: The buffering role of relative topic interest. *Journal of Experimental Education, 79*(2), 185-208.
- Guthrie, J. T., Hoa, L. W., Wigfield, A., Tonks, S. M., & Perencevich, K. C. (2006). From spark to fire: Can situational reading interest lead to long-term reading motivation? *Reading Research and Instruction, 45*(2), 91-117.

- Guthrie, J. T., Wigfield, A., Humenick, N. M., Perencevich, K. C., Taboada, A., & Barbosa, P. (2006). Influences of stimulating tasks on reading motivation and comprehension. *The Journal of Educational Research, 99*(4), 232-245.
- Guzel-Ozmen, R. (2011). Evaluating the effectiveness of combined reading interventions on improving oral reading fluency of students with reading disabilities. *Electronic Journal of Research in Educational Psychology, 9*(3), 1063-1086.
- Hale, A. D., Skinner, C. H., Winn, B. D., Oliver, R., Allin, J. D., & Molloy, C. M. (2005). An investigation of listening, and listening while reading accommodations on reading comprehension levels and rates in students with emotional disorders. *Psychology in the Schools, 42*, 39-51.
- Haring, N. G., & Eaton, M. D. (1978). Systematic procedures: An instructional hierarchy. In N. G. Haring, T. C. Lovitt, M. D. Eaton, & C. L. Hansen (Eds.), *The fourth R: Research in the classroom*. Columbus, Ohio: Charles E. Merrill Publishing Company.
- Hasbrouck, J. E., Ihnot, C., & Rogers, G. H. (1999). 'Read Naturally': A strategy to increase oral reading fluency. *Reading Research And Instruction, 39*(1), 27-38.
- Hawkins, R. O., Hale, A. D., Sheeley, W., & Ling, S. (2011). Repeated reading and vocabulary-previewing interventions to improve fluency and comprehension for struggling high-school readers. *Psychology in the Schools, 48*(1), 59-77.
- Hidi, S.E., & McLaren, J.A. (1991). Motivational factors and writing: The role of topic interestingness. *European Journal of Psychology of Education, 6*(2), 187-197.
- Homan, S. P., Klesius, J. P., & Hite, C. (1993). Effects of repeated readings and nonrepetitive strategies on students' fluency and comprehension. *Journal of Educational Research, 87*, 94-99.

- Hosp, M. K., & Fuchs, L. S. (2005). Using CBM as an indicator of decoding, word reading, and comprehension: Do the relations change with grade? *School Psychology Review, 34*, 9–26.
- Hosp, M. K., Hosp, J. L., & Howell, K. W. (2007). *The ABCs of CBM: A practical guide to curriculum-based measurement*. New York: Guilford Press.
- Inholt, C. (1991). *Read Naturally reading program*. St. Paul, MN: Read Naturally.
- Jacobs, J. E., & Eccles, J. S., (2000). Parents, task values, and real-life achievement-related choices. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance* (p. 408). San Diego, CA: Academic Press.
- Jenkins, J. R., Fuchs, L. S., van den Broek, P., Espin, C. L., & Deno, S. L. (2003). Sources of individual differences in reading comprehension and reading fluency. *Journal of Educational Psychology, 95*, 719–729.
- Joseph, L. M. (2008). Best practices on interventions for students with reading problems. In A. Thomas & J. Grimes (Eds.), *Best Practices in School Psychology V* (pp. 1163-1180). Bethesda, MD: National Association of School Psychologists.
- Kratochwill, T. R., Hitchcock, J., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M., & Shadish, W. R. (2010). *Single-case designs technical documentation*. Retrieved from What Works Clearinghouse website: http://ies.ed.gov/ncee/wwc/pdf/wwc_scd.pdf.
- Kuhn, M. R., Schwanenflugel, P. J., Morris, R. D., Morriw, L. M., Woo, D. G., Meisinger, E. B., et al. (2006). Teaching children to become fluent and automatic readers. *Journal of Literacy Research, 38*, 357–387.

- Kuhn, M. R., & Stahl, S. A. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology, 95*, 3 – 21.
- LaBerge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychologist, 6*, 293-323.
- Lin, L., Zabucky, K., & Moore, D. (1997). The relations among interest, self-assessed comprehension, and comprehension performance in young adults. *Reading Research And Instruction, 36*(2), 127-139.
- Malmgren, K., Edgar, E., & Neel, R. S. (1998). Post-school status of youths with behavioral disorders. *Behavioral Disorders 23*, 257–263.
- Marston, D. B. (1989). A curriculum-based measurement approach to assessing academic performance: What it is and why do it. In M. R. Shinn (Ed.), *Curriculum-Based Measurement: Assessing Special Children* (pp. 18-78). New York: Guilford Press.
- McCurdy, B. L., Cundari, L., & Lentz, F. E. (1990). Enhancing instructional efficiency: An examination of time delay and the opportunity to observe instruction. *Education and Treatment of Children, 13*, 226–238.
- National Center for Education Statistics (2011). *The Nation's Report Card: Reading 2011* (NCES 2012–457). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, D.C.
- National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Available at www.nichd.nih.gov/publications/nrp/smallbook.htm.

- Nelson, J. S., Alber, S. R., & Grody, A. (2004). Effects of systematic error correction and repeated readings on reading accuracy and proficiency of second graders with disabilities. *Education and Treatment of Children, 27*, 186–198.
- Oakhill, J. V., & Petrides, A. (2007). Sex differences in the effects of interest on boys' and girls' reading comprehension. *British Journal of Psychology, 98*(2), 223-235.
- Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in education*. Englewood Cliffs, NJ: Prentice Hall.
- Reschly, A. L., Busch, T. W., Betts, J., Deno, S. L., & Long, J. D. (2009). Curriculum-based measurement oral reading as an indicator of reading achievement: A meta-analysis of the correlational evidence. *Journal of School Psychology, 47*, 427-469.
- Riley-Tillman, T. C., & Burns, M. K. (2009). *Evaluating educational interventions: Single-case design for measuring response to intervention*. New York: Guilford.
- Sattler, J.M. (2008). *Assessment of Children: Cognitive Foundations* (5th Edition). La Mesa, CA: Jerome M. Sattler, Publisher.
- Schiefele, U. (1996). Topic interest, text representation, and quality of experience. *Contemporary Educational Psychology, 21*(1), 3-18.
- Shapiro, E. S. (2011). Instructional modification II: Specific skill areas. In *Academic skills problems: Direct assessment and intervention* (4th ed.). New York, NY: The Guilford Press.
- Shinn, M. R., & Good, R. H. (1992). Curriculum-based measurement of oral reading fluency: A confirmatory analysis of its relation to reading. *School Psychology Review, 21*, 459 – 479.
- Sindelar, P. T., Monda, L., & O'Shea, L. (1990). Effects of repeated readings on instructional-

and mastery-level readers. *Journal of Educational Research*, 83, 353–363.

Skinner, C. H., Adamson, K. L., Woodward, J. R., Jackson, R. R., Atchison, L. A., & Mims, J.

W. (1993). The effects of models' rates of reading on students' reading during listening previewing. *Journal of Learning Disabilities*, 26, 674–681.

Slocum, T. A., Street, E. M., & Gilberts, G. (1995). A review of research and theory on the relation between oral reading rate and reading comprehension. *Journal of Behavioral Education*, 5, 377 – 398.

Stahl, S. A. (2004). What do we know about fluency? In P. McCardle, & V. Chhabra (Eds.) *The voice of evidence in reading research* (pp.187-211). Maryland: Paul H. Brookes Publishing.

Swanson, E., Vaughn, S., Wanzek, J., Petscher, Y., Heckert, J., Cavanaugh, C., & Tackett, K. (2011). A synthesis of read-aloud interventions on early reading outcomes among preschool through third graders at risk for reading difficulties. *Journal of Learning Disabilities*, 44(3), 258-275.

Therrien, W.J. (2004). Fluency and comprehension gains as a result of repeated reading. *Remedial and Special Education*, 25, 252-260.

Unsworth, N., & McMillan, B. D. (2012). Mind wandering and reading comprehension: Examining the roles of working memory capacity, interest, motivation, and topic experience. *Journal Of Experimental Psychology: Learning, Memory, and Cognition*, 39(3), 832-842.

Wayman, M. M., Wallace, T., Wiley, H. I., Ticha, R., & Espin, C. A. (2007). Literature synthesis on curriculum-based measurement in reading. *The Journal of Special Education*. 41, 85-120.

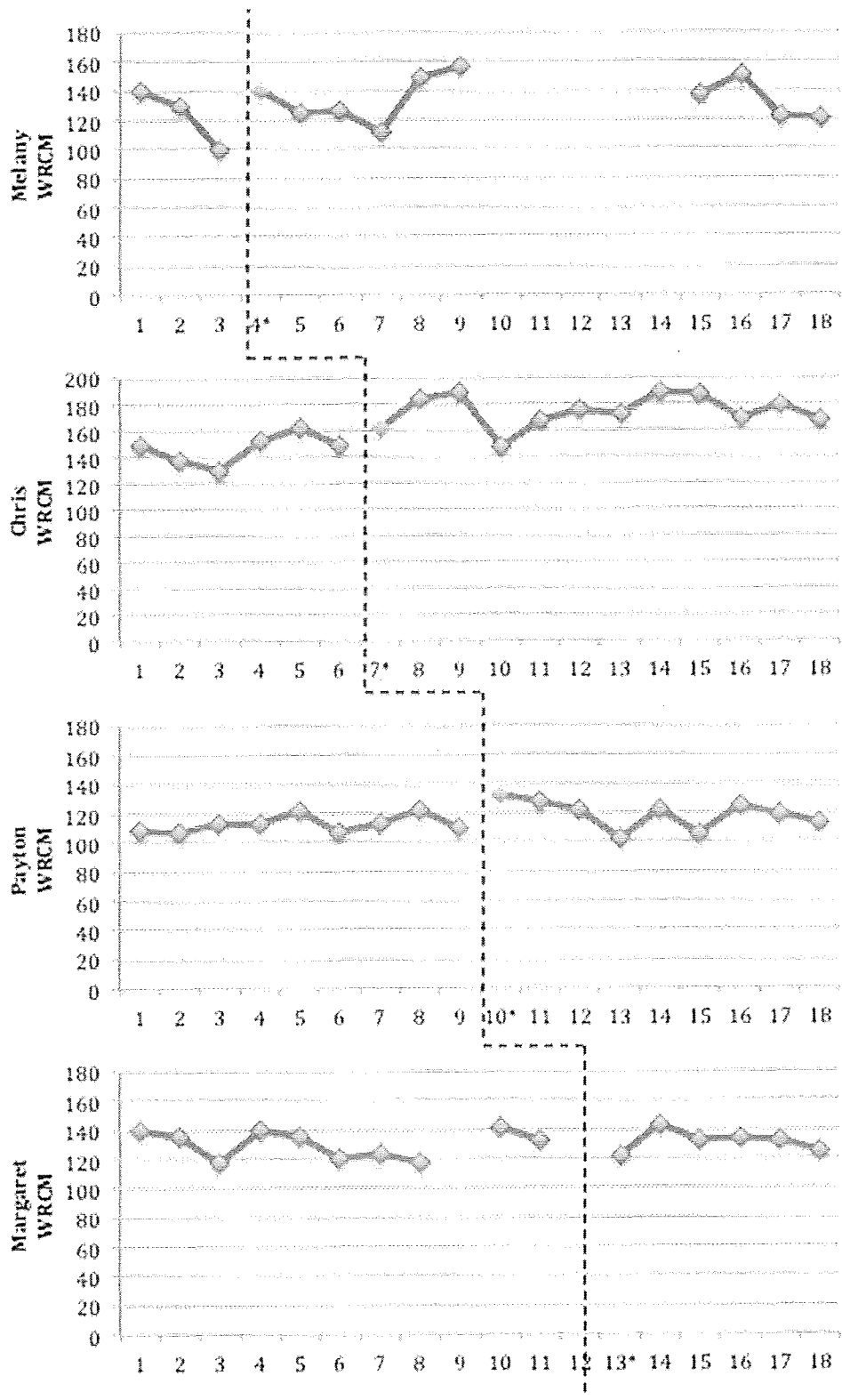
Appendix A

Inter-observer Agreement Table

Participant	Inter-observer Agreement (IOA)
Melany	99.9%
Chris	99.7%
Payton	99.6%
Margaret	100%
TOTAL	99.8%

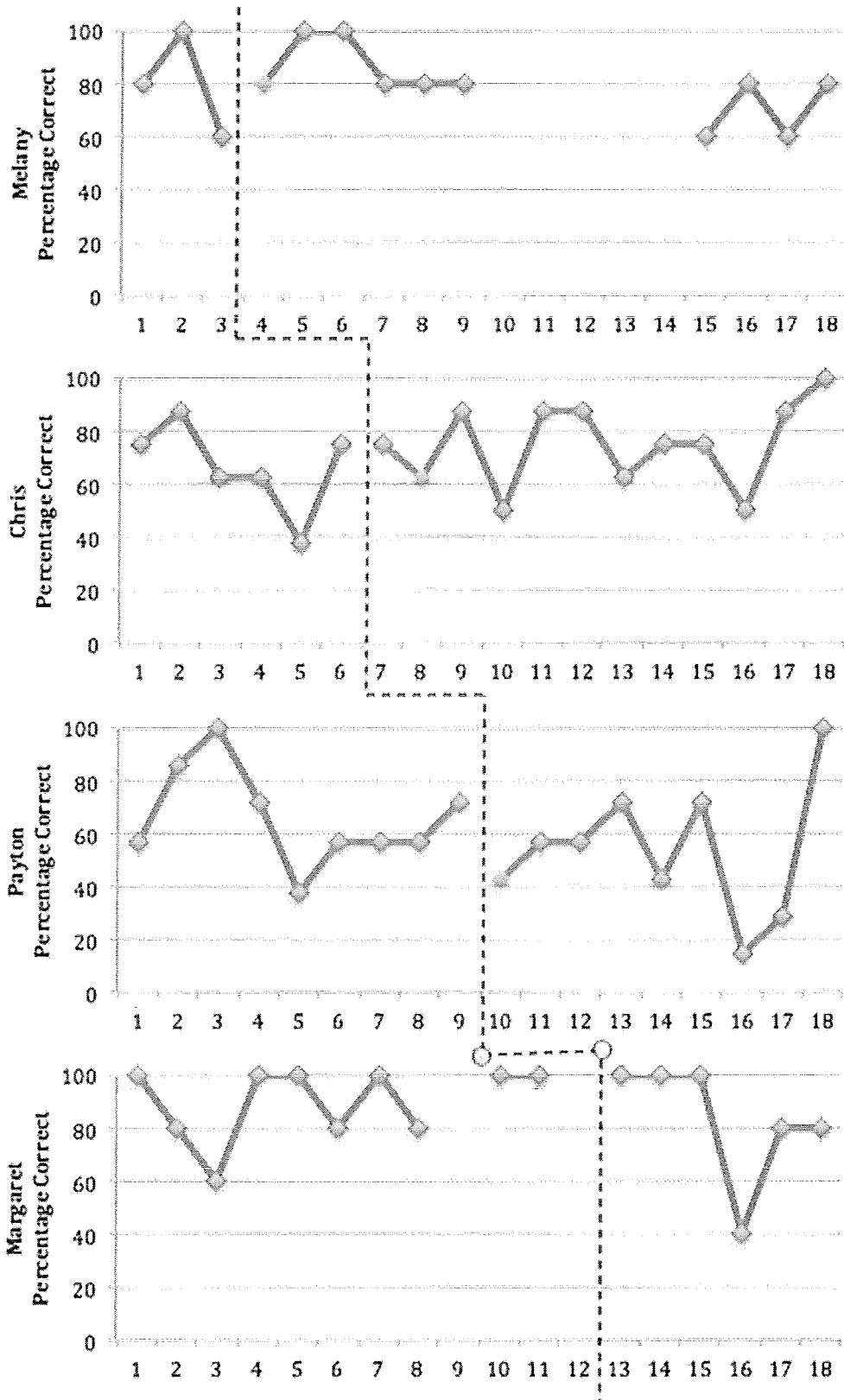
Appendix B

Oral Reading Fluency Hot Read Graph



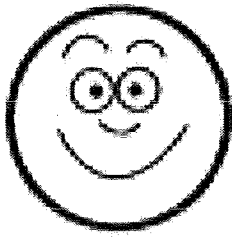
Appendix C

Reading Comprehension Questions Graph



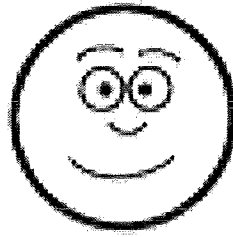
Appendix D

Visual Scale for Text Topic Interest



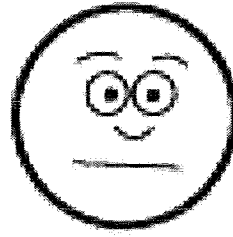
1

**Very
Interesting**



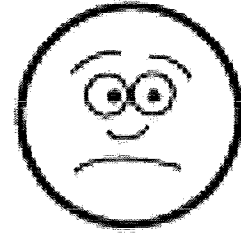
2

Interesting



3

**Not very
Interesting**



4

**Not at all
Interesting**

Appendix E

Fourth Grade Passage Example

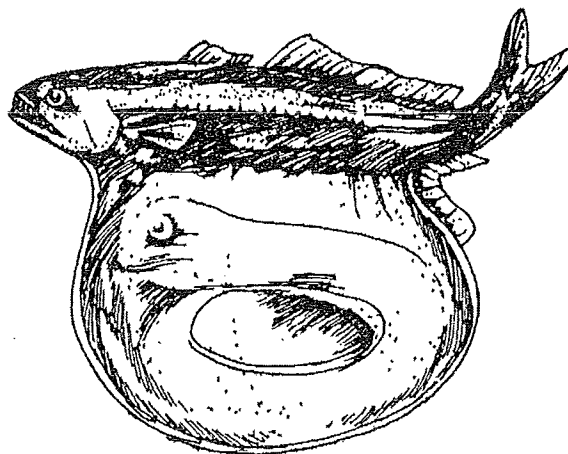
The Black Swallower

Story 11, Tracks 1-4

Review Key Words'

elastic	able to be stretched out and brought back to normal
search	to look for
whole	total; complete
bottom	the lowest point

Write a Prediction



Read the Story²⁴

8 If you could go down to the bottom
 16 of the deep ocean, you would see many
 22 strange things. You might see what
 29 looks like one fish inside another. The
 36 black swallower has such a big mouth
 43 and an elastic stomach that it can
 51 swallow other fish whole. In fact, it can
 58 swallow a fish three times its own
 66 length and twice as heavy. After it has
 72 swallowed the bigger fish, its stomach
 78 swells and stretches; then the stomach
 becomes transparent. You can see

83 right through the swallower. You can
 89 see the fish it has swallowed curled up
 97 inside its stomach.

100 If you go to the bottom of the ocean
 109 to look for the black swallower, you will
 117 have to search very carefully to find it.
 125 Like many other fish that live near the
 133 bottom, it is colored like the bottom to
 141 help it hide from its enemies. And don't
 149 look for a big fish. The black swallower
 157 is less than six inches long.
 163

Answer the Questions

1. What is the main idea of this story?
 - a. The black swallower hides from its enemies.
 - b. The black swallower is a small fish.
 - c. The black swallower eats fish bigger than itself.
2. What does the black swallower's stomach do?
 - a. stretches and swells
 - b. hurts when full
 - c. turns inside out
3. What does **transparent** mean in this story?
 - a. black
 - b. clear
 - c. large
4. What would happen if a hungry black swallower met a 12-inch fish?
 - a. The black swallower would look for something smaller to eat.
 - b. The black swallower would eat the larger fish.
 - c. The black swallower would swim to the bottom of the ocean.
5. Why is the black swallower not dangerous to humans?

Number Correct: _____

Write a Summary of "The Black Swallower"

Appendix F
Fifth Grade Passage Example

Stone henge

Story 14, Tracks 5–8

monument

A monument is a structure that has become historically important.

arcs

Arcs are curved lines that have the shape of part of a circle.

circular

If something is circular, it has the shape of a circle.

aligns

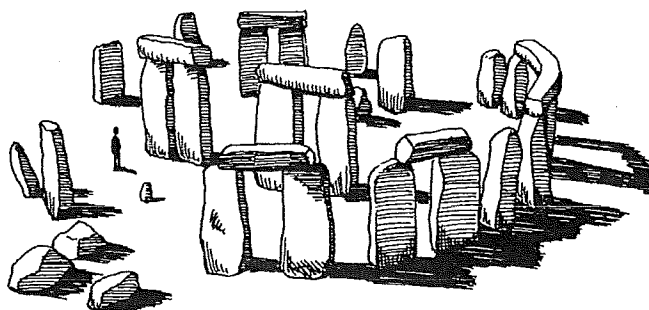
Aligns means lines up with.

8 Ruins of a huge stone **monument** stand on
15 Salisbury Plain in southern England. Some of
25 the stones are about 18 feet tall and weigh over
34 20 tons. Many were likely brought to the **site**
42 from over 200 miles away. The stones form
51 broken rings in an area surrounded by a large
57 **circular ditch**. Known as Stonehenge, this
64 monument has existed for thousands of years—
71 since long before machines could have helped
80 create it. Who built it—and how and why?

88 Over the years, many people have tried to
94 explain Stonehenge. Some people wondered if
103 it was the work of the **Romans**. Others thought
112 the Druids, a group of ancient priests, built it.
118 Some even imagined that the **legendary**
124 **magician** Merlin had placed the stones. Scientists
129 have studied Stonehenge. Many
135 **theorized** that several groups of people
142 **contributed** to the structure at different times,
149 starting about 5,000 years ago. People have
156 made drawings of how Stonehenge may have
164 looked at different **stages** in history. At one
172 time, many more stones stood at the site.
180 Together with the stones still there, they likely
formed completed **rings** around two stone **arcs**.

167 Moving the large stones from their natural
194 homes into their places at Stonehenge would
201 have been difficult. Scientists have **pondered**
207 how the builders were able to do so without
216 modern tools. The builders may have rolled the
224 huge stones over a series of logs. They may
233 have used large sleds or rafts, and perhaps they
242 used animals. To test these **possibilities**, people
249 have tried to move similar blocks of stone in
258 several different ways.

261 Chances are that Stonehenge was an
267 important place for the people who worked on
275 and used it. But what did they use it for?
285 Some people have guessed that it was a place
294 where the injured or ill went for healing.
302 Others have said it was a **shrine** to the dead.
312 The entrance to Stonehenge **aligns** with the
319 path of the sun on the longest and shortest days
329 of the year. It's possible that the site served as
339 a type of calendar, helping people to keep track
348 of the seasons. Imagine trying to hang that
356 calendar on your wall!
360



words read _____

- errors _____

= _____
cold score

words read _____

- errors _____

= _____
hot score

expression _____

goal _____

date passed _____

Stonehenge

Identifying the main idea

1. What is the main idea of this story?
 - a. People may have used sleds, rafts, or animals to build Stonehenge.
 - b. Many unanswered questions remain about the huge ruins of Stonehenge.
 - c. Stonehenge is made of stones that weigh over 20 tons.

Recalling a fact

2. What may have been used to move the huge stones?
 - a. ditches
 - b. logs
 - c. machines

Getting meaning from the context

3. What does **theorized** mean in this story?
 - a. heard someone say
 - b. gave an explanation
 - c. did not believe

Making connections within the text

4. Why was it probably difficult to build Stonehenge?
 - a. because the site changed at different stages in history
 - b. because the entrance aligns with the path of the sun
 - c. because the huge stones came from 200 miles away

Connecting author's ideas with reader's ideas

5. Explain why it probably took a long time to build Stonehenge.

Developing vocabulary

6. A synonym is a word that has the same meaning as another word. Match each word with its synonym.

1. stages	a. ___ circles
2. ditch	b. ___ thought
3. pondered	c. ___ famous
4. rings	d. ___ periods
5. legendary	e. ___ hole

Attending to details

7. Fill in each blank with a bold-faced word from the story.
 Some people have thought Stonehenge was built by a _____ magician. Scientists believe it was built over time at different _____ in history. They think that different groups of people _____ to the building of Stonehenge. Nobody is sure what Stonehenge was used for, but there are several _____. It may have been a calendar, because its entrance _____ with the sun's path.

Processing information

8. Why might different groups of people have kept contributing to the building of Stonehenge?
