The impact of oral fluency and silent fluency on the comprehension of fourth graders

Julie Adele Wright

Louisiana State University and Agricultural and Mechanical College

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THE IMPACT OF ORAL FLUENCY AND SILENT FLUENCY ON THE COMPREHENSION
OF FOURTH GRADERS

A Dissertation
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
In partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
The Department of Educational Theory, Practice, and Policy

by
Julie Adele Wright
B.S. Louisiana State University, 1994
M.A. Louisiana State University, 1996
Ed. Cert. Louisiana State University, 2008
December, 2011
DEDICATION

I dedicate this work to my parents, Jimmy and Adele Wright, who believe that education is the most valuable asset in the world; once you have it, it cannot be taken away from you.

I would also like to dedicate this work to Dr. Earl Cheek, Jr., he was the first professor to educate me about children and reading two decades ago and he has continued to so even today and for many others.
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ABSTRACT

The purpose of this quantitative study was to discover if a connection exists between oral fluency and silent fluency. Comprehension was used as the consistent measurement instrument for the study. Understanding how oral fluency transitions to silent fluency helps educators understand how to assist students with this process. Most reading done to acquire knowledge after the fourth grade is performed silently. Students need to be an effective silent reader to be successful in school. In addition, reading comprehension and most other parts of standardized testing is read silently by the student unless accommodations are put in place before testing.

If a connection exists between oral fluency and silent fluency then instructional methods could be implemented to make both modes of reading equally successful. Also indicators that signal the teacher that the student is prepared to move to silent reading may be identified.

Students reading eight grade level passages both orally and silently allowed data to be collected to determine if a connection was present for the two types of fluency. A slight connection between oral and silently was found, but was not strong enough to make blanket statements. Although data collected about prosody was strong enough to determine that if a student reads orally with prosody, their comprehension will be strong for both oral and silent reading. This study also used five different types of comprehension questions and it was determined that vocabulary questions were statistically more difficult to answer than the other four types of questions.
CHAPTER 1: INTRODUCTION

Statement of the Problem

Reading requires the accomplishment of two critical tasks simultaneously – decoding words and comprehending text (Griffith & Rasinski, 2004). Fluency is the key component in aiding comprehension. Fluent readers are proficient in the ability to connect words into meaningful phrases, which assists the reader in making sense of the text. Oral fluency is a component of reading instruction that can be measured by several different assessments such as Dynamic Indicators of Basic Early Skills (DIBLES) or Observational Survey of Early Literacy Achievement (OSELA) (Afflerbach, 2007). Assessment of oral fluency is thought to assist beginning readers in identifying fluency difficulties. Some fluency difficulties readers may have include stumbling over words when reading, reading very slowly without connecting words, losing their place when reading, reading with no expression, and movement of the lips when reading silently (Rasinski, Blachowicz, & Lems, 2006). Vocalization, known as the whispering or the murmuring noise produced when reading silently, is another silent fluency disruptor (Taylor, 2006). These difficulties hinder comprehension, making it important to resolve fluency issues in a timely manner. A reader struggling with oral fluency will have a difficult time comprehending when coursework is given to be read silently. Comprehension is affected by the reader’s fluency; without silent fluency, the reader will most likely not master the material needed for achievement. It is important to discover a method of assessment for silent fluency. By using the reader’s earlier developed oral fluency as a method to predict a reader’s silent fluency, interventions could be established to correct fluency difficulties in both the oral and silent domains.
Factors That Affect Fluency

There are three main factors that affect a reader’s fluency: the amount of practice reading, the quality of modeled fluency heard by the reader, and the reader’s vocabulary and exposure to new words (Rasinski, Blachowics, & Lems, 2006). Practicing reading to improve fluency may be fulfilled by two different methods. The first way is to allow the reader to read any material available without assessment or monitoring. The reading materials could include books for leisure, internet blogs, magazines or newspapers. If the reading materials are too difficult for the reader, frustration will set in and most likely the reader will abandon the task. This method of reading practice is usually unmonitored and allows the reader to practice using their own resolve, but the ideal reading material will of high interest to the reader (Kelley & Clausen-Grace, 2009). An example of a monitored method of reading would be a Sustained Silent Reading program in a school setting where the amount of time is monitored, but not the reading material (Chua, 2008).

A more structured practice technique for fluency is repeated oral readings. This intervention technique has received research validation as a way to increase oral reading fluency for students with and without disabilities (Kubina et al., 2008; Chard et al. 2002; Kuhn and Stahl 2003; Mastropieri and Scruggs 1997; National Reading Panel, 2000.). Repeated readings are designed to build automatic word identification skills by having non-fluent readers orally read a passage several times until the desired fluency is achieved (Roundy & Roundy, 2009). This method is designed to increase a student’s ability to decode text and help understand how words are “chunked” together to construct meaning from the text. Students are not allowed to move to the next passage until the original passage is read with fluency. This method is extremely
controlled and repetitive, but it allows the non-fluent reader the needed practice to effectively improve a student’s overall reading fluency and comprehension (Roundy & Roundy, 2009).

The more models of fluent reading a child hears the better his own fluency will be when reading. Fluency comes by listening to proficient models (Taylor & Gunter, 2006). A certain amount of oral reading modeling will help students recognize words as components of syntax as they learn to read expressively (Taylor 2006). If a passage is read aloud in a class it should be done by fluent readers so that students may hear correct modeling and also so that a troubled reader is not mocked and made sensitive or uncomfortable. Fluent readers are not always the teacher; some other proficient models include audiotapes, compact discs, or audio enhanced websites that support the text being read (Taylor & Gunter, 2006).

Vocabulary is another of the five components of reading, and it is crucial to fluency. The more exposure a student has to new or high-frequency words, the better his fluency (Rasinski, 2003). Exposure to vocabulary lessens the time needed to decode words since the words are instantly identifiable by the reader. Decoding competence is still an essential component to reading, but it is critical to reduce the instances and time required for prolonged decoding when developing fluency in reading (Taylor, 2006). Some words have more than one meaning and the reader needs to be able to proficiently apply context clues to determine which use of the word would be correct. This may also apply to the pronunciation of a word depending upon the tense or use in a sentence; for instance, I “live” on Cooper Street versus I like “live” music. The more exposure to a rich vocabulary a reader has the more fluent of a reader he will become.
The Teacher’s Role

Teachers are the instruments that should correctly model fluency for their students. The teaching of oral reading skills is usually done through both demonstration and practice (Hillerich, 1983). It is imperative that students are afforded an opportunity to hear oral fluency that allows for punctuation pauses, natural phrasing in sentences, and expression or prosody. For some children, a teacher may be the only reader who demonstrates correct oral reading. Research has shown that students who are read aloud to by a proficient reader regularly have stronger comprehension and a larger vocabulary versus students who are not read aloud to regularly (Rasinski, 2003). Exposure to correct prosody is the basic strategy for beginning readers to learn to read with prosody.

The reader needs to be familiar with attack strategies for new text so that he may read fluently instead of stumbling over words and losing the focus of comprehension. Before reading a new passage, teachers should identify key vocabulary to help aid decoding and comprehension (Taylor & Gunter, 2006). Not only will this aid decoding, but it will also allow for the correct definition to be decided upon for words that may have more than one meaning. Specialized vocabulary words used in specific content areas need to be predefined before reading along with the teacher. This will allow the student to make connections to the real world that will assist the students in pronouncing and knowing the new word. Preparing a student for a new text is vital to teaching fluency. This may be accomplished by utilizing a think-aloud during whole-class instruction (Griffith & Rasinski, 2004).

The teacher also assumes the role of fluency assessor. It is the job of the teacher to give feedback, suggestions, and strategies to assist the student struggling with fluency. This may
include assigning guided reading, paired reading, or repeated reading interventions (Rasinski, 2005). A crucial part of the assessment is documenting fluency problems and progress. It is important that the teacher also becomes a resource provider. Some classrooms may not be equipped with the resources needed for fluency instruction; this could consist of a tape recorder or other audio player, books for independent reading, and text and poetry that lend themselves to fluency strategies (Taylor and Gunter, 2006). These materials assist the students in fluency and can make learning more dynamic and interactive.

**Oral Reading Speed versus Silent Reading Speed**

Some assessments use words per minute as measurement of fluency; this is exemplified in DIBLES assessment (Good & Kaminski, 2002). In addition to the word per minute count, mistakes made while reading are taken into account. There are also tests that measure how many words per minute are read silently. Both types of these fluency tests, silent and oral, include a chart where the words per minute read by the reader should increase with each grade level (Taylor, 2006). The rate of reading orally is less words per minute than the rate of reading silently. Oral reading requires the eye to visual identify the word, allow the brain time to process it, and then use the vocal chords and mouth to emit it; therefore, silently fluency takes less time since one-third of the oral reading process, the vocalization of the word, is removed. (Taylor, 2006). Oral reading rates are even more constrained by the speed of speech production (Samuels, Hiebert, & Rasinski, 2010). Data collected over decades on oral reading norms and silent reading norms show that silent reading rates exceed oral reading rates by at least 30%, even for students at the 50th percentile in the primary grades. (Hasbrouck & Tindal, 2006; Taylor, Frankenpohl, & Pettee, 1960)
When students read silently they are discouraged from silently moving their lips or whispering while reading. Movement of the lips, or vocalization, limits the reading rate and interfere with comprehension (Taylor, 2006). If these two practices are not stopped, the student may become dependent upon them for reinforcement of word recognition and their silent fluency reading words per minute will not reach the adequate rate since a silent extra step is added to the silent reading process. Becoming a successful silent reader denotes breaking oral reading habits that reduce the word per minute count.

Another impediment of the rate of silent reading and processing is by the capacity of eye movements (Samuels, Hiebert, & Rasinski, 2010). Current eye movement research shows that fluent readers do not fixate on or even see every letter or every word while reading a text; fluent readers actually only fixate on one-half or three-fourths of printed text (Paulson & Freeman, 2003). In their study of ocular movement, Paulson and Freeman discovered that the longer readers allow their eyes to fixate on one word, or group of words, they were logically non-fluent readers. This discovery was not attributed to decoding difficulty, but because the reader has not trained their eyes to select the important text to read. Reading is not as uncomplicated as decoding text; it is training the eye to sweep across text and learn to interpret the spaces and punctuation (Paulson & Freeman, 2003). The most often employed methods to accomplish this skill is through silent reading practice. The more practice the reader is engaged in, the more trained the movements of the eye will become.

The Role of Prosody

Fluency is one of the critical factors needed for reading comprehension; it is defined by the National Reading Panel as when a reader is able to read with speed, accuracy, and proper
expression. (National Reading Panel, 2000). Prosody is the ability of an individual to read while providing the appropriate expression implied by the text; for example, intonation, stress, and timing (Wise et al., 2010). The skill of prosody is developed from training the ear to listen for these cues when a competent reader is reading orally. This is developed by listening to a reader who displays prosody by using correct pauses for punctuations or being able to “chunk” words together for natural phrases, and lending inflection and emotion to the text being read. Students who can read with prosody display a higher understanding of what is being conveyed by the text by exhibiting understanding of the author’s intended mood or tone. There is a strong relationship between “expressive reading”, or prosody, and comprehension; this relationship is due to the fact that the reader would need to fully comprehend what is being read to attach the correct expression (Rasinski, Blachowicz, & Lems, 2006). The reader must first put in place the other components of fluency -- speed and accuracy -- before adding prosody. It reasons that the reader would first need to know the pronunciation and the definition of the text being read to affix the proper inflection and stress to add emotion. A second component of fluency is speed, and this component is also essential to prosody. A passage of text exuding an excited tone would be read with a faster speed to exemplify the mood, whereas a mournful passage of text would most likely be read using a slower speed to help enhance the tone. The speed of reading may be influenced by prosody to help demonstrate not only the comprehension of the text, but the mood and tone meant by the author of the text. If the author uses a word with several meanings, the use of prosody by the reader may clarify the meaning meant to be used by the author. The task of prosody is a key component of creating a clear and logical interpretation of the text read.
Background of Fluency in Schools

Historically, oral reading was the only reading taught and practiced in schools in Western culture (Allington, 1983). McGuffey Readers are a prime example of this reading instruction plan. The readers were designed for elocutionary exercises to increase the reader’s articulation, inflection, pitch, rate, emphasis and gesture. Oral reading skills remained dominant in school curriculums until the early 1900’s when the oral reading versus silent reading debate began due to research findings that supported silent reading (Barr, Kamil, & Mosenthal, 1996). Some schools were named “blab schools” since many of the students were reading orally at the same time from different texts; the noise in the schoolroom was known as “blab” since what was being read could not be distinguished (Rasinski, 2003). This was the way school was taught until the early research found a better technique to teach children (Barr, Kamil, & Mosenthal, 1996). It was discovered through standardized test scores from reading achievement tests that silent reading produced better comprehension results (Smith, 2002; Barr, Kamil, & Mosenthal, 1996). Test scores drive the curriculum, and silent reading became a part of modern reading curriculum. Another driving force behind utilizing silent reading for instruction purposes in the classroom was the amount of material students could cover (Rasinski, 2003). Students could cover more material in texts if the room was silent, which allowed for concentration to take place. Educators also recognized silent reading was a more authentic form of reading since it was used more in real-life settings than oral reading (Rasinski, 2003).

Teachers in the mid-twentieth century began using the oral reading method of “round robin reading” (Rasinski, Blachowicz, & Lems, 2006). Teachers believed this was an excellent reading instruction method to assess each student’s oral ability while other students followed along in their books. Teachers believed this benefitted the entire class by keeping all students on
task (Rasinski, 2003). There were many faults with round robin reading. Surprisingly, most of the students did not follow along silently in their own reader; most students were simply off task until it was their turn to read aloud (Rasinski, 2003). Another problem with round robin reading is when struggling readers read aloud they frustrate the better readers (Taylor & Gunter, 2006). Proficient readers desire to correct the struggling reader or lose interest in the passage being read. Other faults of round robin reading include making a child’s reading deficiencies public, little or no prosody is practiced, and fluency is not correctly modeled (Rasinski, 2003). Round robin reading does not advance fluency or comprehension.

Fluency is often described as the missing element in reading instruction (Allington, 1983). In 2000 the National Reading Panel’s report on reading helped oral fluency reemerge as a key component. The report indicated oral fluency should be a key component of effective and cohesive instruction (National Reading Panel, 2000). The National Reading Panel’s report in tandem with No Child Left Behind Legislation compelled school districts across the nation to begin oral fluency testing in schools. DIBELS is one of the most popular oral fluency tests for schools since it may be administered for less than one dollar per student (Daly, Chafouleas & Skinner, 2005). DIBELS covers many areas of early literacy skills. The skills start at the basic level such as initial letter sounds, phoneme segmentation, and letter naming, and progress to more difficult skills such as blending sounds and timed oral reading fluency (Daly, Chafouleas & Skinner, 2005). DIBELS does not penalize a child’s pronunciation if it is a natural dialect (Good & Kaminski, 2002). An additional component of retelling was added to DIBELS so that comprehension could be tested additionally (Afflerbach, 2007). This addition annulled teacher’s fears that DIBELS only tested “speed reading”; the explicit comprehension check allowed fluency to perform as an indicator of overall reading proficiency (Good & Kaminski, 2002). The
assessment is easily and quickly given, allowing for a comparative measurement to be made almost instantaneously.

Fourth Grade Slump

Adult readers rarely read aloud to comprehend material, the transition to silent reading most likely having begun in fourth grade. Fourth grade is a transitional year for most students; students go from learning to read to reading to learn, and this period is sometimes referred to as the fourth grade slump (Tyre & Springen, 2007). The fourth grade slump was identified in the 1950’s after a twelve year study by Walter Loban (Byrnes, 1996). The study revealed a drop in reading performance at fourth grade and continuing throughout the student’s academic career. In addition to poor academic success, the gap between the successful students and the struggling students continued to widen (Byrnes, 1996). A student’s independent reading ability is the decisive factor as to whether the scores will display a gain or remain stagnant in the yearly standardized test scores for reading.

The fourth grade is recognized as the year when students receive expository texts and are instructed to read chapters silently for the purpose of comprehending the material (Tyre & Springen, 2007). The text become more complex and use abstract language and concepts that make reading a more difficult task (Williams, 2008). Prior to fourth grade students were primarily exposed to narrative text in the form of storybooks, but upon entering the fourth grade the students are expected to comprehend vast amounts of information in the form of expository texts and subject specific vocabulary (Sanacore & Palumbo, 2009). In the years before fourth grade emphasis is on learning to accurately recognize words, while reading education in fourth grade and beyond is focused upon comprehension. Problems may arise from children’s
difficulties with the shift to language comprehension skills and fluency skills at this grade level (Samuels, 2007). One possible factor is that the student may be unable to transfer the fluency they possess when reading orally to the fluency needed to read silently. Oral reading allows the reader to assess more easily the speed and accuracy at which he is reading while silent fluency does not lend itself to be as easily self-monitored. It has been suggested that children from low socioeconomic backgrounds are particularly vulnerable to stagnating in the fourth grade due to limited vocabulary exposure (Chall & Jacobs, 2003). Vocabulary exposure is the accuracy element of fluency; the larger a child’s vocabulary, the stronger a child’s accuracy when reading. Text books are filled with content specific vocabulary, and the low socio economic student’s limited vocabulary exposure and awareness of the world makes learning even more difficult (Chall & Jacobs, 2003). Also vocabulary is highly correlated with fluency and reading comprehension; children from low socio economic areas that lack vocabulary knowledge will probably have difficulty comprehending content area resources (Anderson and Freebody 1981). Logically, if a child is having difficulties with any facet of reading in early years of instruction and cannot transition to comprehend when reading silently, it would be logical to assume the reading difficulty will continue past the fourth grade. Since fluency plays a considerable role in comprehension, it is important to examine how silent fluency may be studied and assessed to find effective instructional methodology to assist struggling readers. Correcting reading deficiencies will assist in all subject areas of learning and remain with the student beyond fourth grade.

Significance of Present Study

This study was designed to measure both silent fluency and oral fluency using a consistent measurement tool. Oral fluency is the reading skill that allows the reader to read
aloud using correct accuracy, sensible speed and prosody. This is usually the first type of fluency developed. Silent fluency is the non-vocal reading skill where the reader determines appropriate pace, with word recognition and prosody, with the ability to “hear” the text as if it is being read aloud. This measurement tool for fluency is the reading skill of comprehension. Comprehension is the pinnacle goal of reading; it is the ability to understand what is being communicated by the text. By determining if there is a relationship between the two different modes of fluency using comprehension, comparisons and predictions may be made about the relationship of the two types of fluency. Initially, a child learns oral fluency and this will be the first indication of any reading difficulties. If a correlating relationship exists between oral and silent fluency, correcting the initial oral difficulties may allow for the difficulty to be avoided for silent fluency. A correlation between oral and silent fluency reading rates will help gain insight into the amount words correct per minute one should read to be considered proficient in both oral and silent fluency. Oral fluency may provide a glimpse into how the student manages and attacks new text. This information is helpful in resolving problems a student may have with their silent reading.

Silent fluency is essential for students when the transition to silent text instruction begins. Without being proficient in silent fluency, a student’s reading score may stagnate (Samuels, 2007). More harmful is that the student will not acquire knowledge through silent reading for his classes. Being skilled in silent fluency is critical not only to the subject of reading, but to all content areas. Silent fluency also impacts the degree of satisfaction one receives from reading for pleasure. It would seem unlikely someone would read if it is a difficult task; therefore, since reading for pleasure is typically an independent silent activity, silent fluency is necessary for the enjoyment of life outside of the classroom and becoming a lifelong learner.
Research Questions

The purpose of this study is to assess and evaluate silent and oral fluency capabilities in fourth grade students using the same measurement tool of comprehension. The researcher has chosen to focus upon the following research questions for this study.

1. What is the relationship between oral reading speed and silent reading speed for the same passage?
2. What is the relationship between speed of reading, both orally and silently, and comprehension?
3. What is the relationship between the number of mistakes made while reading a passage orally and comprehension? In addition, do self corrections influence comprehension?
4. How accurately will the number of mistakes made while reading orally act as a predictor for the amount of comprehension errors made while reading silently?

Definition of Terms

Terms used in this study are defined as follows:

**Chunking** – Promotes fluency and comprehension. It is a reading skill used in both oral reading and silent reading. Instead of reading text word by word, the chunking skill groups words into meaningful phrases. It is usually develops by hearing correct chunking modeled. When this skill is used consistently, a reader exhibits a great degree of fluency. It also exhibits great comprehension because it connects thought to text.

**Comprehension** – It is sometimes referred to as “text comprehension”. Is the main objective of the reading process; if readers are reading the words, but cannot understand them or connect them into meaning, then the reader is not really reading. Good readers are also have purpose in
their reading and remain active throughout reading. The panel identified seven ways of teaching text comprehension that helped improve reading strategies in children who didn’t have learning disabilities.

**Decoding skills** - Decoding uses the two reading skills of phonemic awareness and phonics to correctly pronounce a word. The ability to do this quickly and accurately enhances fluency, whereas a student who has poor decoding skills will have difficulty with fluency.

**DIBELS** – This is an acronym for Dynamic Indicators of Basic Early Literacy Skills. This is an assessment for kindergarten through sixth grade to evaluate how well students have acquired early reading skills. This fluency assessment was developed initially as criterion-referenced, or a measure of benchmarks that should be reached by a particular timeframe, but national norms have been established by state and districts. DIBELS is used as a part of the Reading First federal program. DIBELS assessments measures assess the 5 basic building blocks in beginning reading: phonemic awareness, measured by initial sounds fluency and phoneme segmentation fluency; alphabetic principle, measured by nonsense word fluency; accuracy and fluency with connected text, measured by oral reading fluency; vocabulary, measured by word use fluency; and comprehension, measured by oral reading fluency and retell fluency.

**Ensuring Literacy for All (ELFA)** – Is a grant program in Louisiana run by the Louisiana Department of Education. The initiative provides money to at risk schools to assist in closing the literacy gap. Many of the guidelines in place for ELFA follow the now defunct Reading First Program. Fluency and comprehension assessment make up the majority of assessed skills.
Five Pillars of Reading - The five most important components of reading were identified by the National Reading Panel in 2000. The five areas of reading are phonemic awareness, phonics, vocabulary, fluency, and comprehension. Phonemic Awareness means knowing that spoken words are made up of smaller parts called phonemes. Teaching phonemic awareness gives children a basic foundation that helps them learn to read and spell.

Fluency – This pillar of reading fluency means being able to read quickly, knowing what the words are and what they mean, and properly expressing certain words - putting the right feeling, emotion, or emphasis on the right word or phrase. Teaching fluency includes guided oral reading, in which students read out loud to someone who corrects their mistakes and provides them with feedback, and independent silent reading where students read silently to themselves. The panel found that reading fluently improved the students’ abilities to recognize new words; read with greater speed, accuracy, and expression; and better understand what they read. Fluency is referred to as the bridge between recognition and comprehension.

High Frequency Words - High-frequency words are the words that appear most often in printed materials. In 1983 Robert Hillerich stated, "Just three words I, and, the account for ten percent of all words in printed English." Learning to recognize high-frequency words by sight is critical to developing fluency in reading. The list of high frequency words are often referred to as the Dolch word list.

High-Level Inference – This is a difficult thinking level for an open-ended comprehension question. These types of comprehension questions require the reader to make a connection between the text and their personal experience to create a logical deduction.
**Insertion** – Insertions are the addition of words into text being read. This is considered to be an insignificant error as it usually embellishes what is being read. Only when a negative word is inserted is the meaning changed to the opposite, making the meaning completely opposite.

**Literal Items** – Is the most basic level of thinking used in open-ended comprehension questions. An answer to a question is literally found in the text. Using the thinking skill of recall is all that is required.

**Low-Level Inference Item** – This is an intermediate thinking level for a open-ended comprehension question. The answer to the inference question is not stated verbatim in the text, but the answer may be so literal it is obvious in the text. This type of question still requires the reader to draw a conclusion using the text, but very little schema or experience is required to draw the correct inference.

**Modeling** - When an example of proper reading technique is demonstrated for the benefit of a student or a group of students. Proper reading technique includes correct pronunciation, pauses indicated by punctuation, and inflection in the voice to indicate the mood or tone of the text.

**National Assessment of Educational Progress** - (NEAP) This organization is the largest nationally representative and continuing assessment of what America's students know and can do in various subject areas. Assessments are conducted periodically in mathematics, reading, science, writing, the arts, civics, economics, geography, and U.S. history. NAEP assessments are administered uniformly using the same sets of test booklets across the nation, NAEP results serve as a common metric for all states and selected urban districts. The assessment stays essentially the same from year to year, with only carefully documented changes. This permits NAEP to provide a clear picture of student academic progress over time.
The National Reading Panel – Was organized in 1997 by a United States congressional mandate to assist parents, teachers, and policy makers identify the crucial skills and methods of learning that impact reading education. After reviewing 100,000 reading studies that met the predetermined guidelines of being a research-based study, applicable to a general population, and addressed more than one reading skill; the panel concluded that there were five major components of reading to be addressed in the classroom; phonemic awareness, phonics, vocabulary, fluency and comprehension. These finding were published in the Nation Reading Panel Report in 2000.

Omission- When a reader omits a word or part of a word when reading orally. This counts against a child in fluency testing. Infrequent omissions are insignificant in relation to comprehension, but frequent omissions effect comprehension negatively. There is no defined number to indicate frequent or infrequent.

Phonemic Awareness – As defined by the National Reading Panel it is knowing that spoken words are made up of smaller parts called phonemes. Phonemic awareness is the ability to identify and apply the individual sounds in a spoken word. This is the beginning skill for reading, and the Nation Reading Panel found that children who learned to read through specific instruction in phonemic awareness improved their reading skills more than those who learned without a concentration on phonemic awareness.

Phonics – This component of reading teaches children the relationship between the letters (graphemes) of written language and the individual sounds (phonemes) of the spoken language according to the National Reading Panel. This knowledge prepares the child to read and spell. The Nation Reading Panel found that students show evident benefits from explicit phonics instruction beginning in kindergarten through sixth grade.
Prosody – Is the skill that allows a reader the ability to use expressive interpretation of the text being read. The use of prosody while reading exhibits a high level of comprehension. This is exemplified as the reader is able to match the correct expression to the text as it is being read.

Repetition or Repeated Words – This is when the student reading repeats a word or group of words in the text. The more excessive this error occurs, the more significant impact this makes on the fluency and comprehension of the text being read. The teacher’s discretion will determine the degree of frequency this occurs to classify it as a significant or an insignificant error.

Retelling – Is used as an oral measure of comprehension for either oral reading or silent reading. This comprehension measure allows the reader to use their own vocabulary to state what was processed and retained as they read. The more accurate and greater the detail, the better the comprehension is displayed.

Standardized Test Scores – Scores from a test that is administered, formatted and scored using a standard method. There are two types of standardized test; norm-referenced, where an individual’s score is compared to a sample of peer’s scores, and criterion-referenced, where the individual’s score is calculated based upon a the percentage of correct answers based on a predetermined selection of subject matter.

Substitution – This is an error during oral reading and is occurs when a student substitutes another word for the text word. This type of error is considered to be significant if it changes the meaning of the text or interferes with fluency. If the substitution does interfere with neither the meaning nor fluency, then it is not considered to significant.
**Vocabulary** - Is one of the identified five pillars of reading by the National Reading Panel. This component of reading teaches students how to recognize words and understand them. A child’s oral vocabulary is larger than their text vocabulary, children use the words they have heard and apply them to text to help establish meaning from the text. The panel found that vocabulary instruction and repeated contact with vocabulary words is important. This includes the vocabulary word being learned as part of a text and also independently.

**Word Callers** – Are accurate and expressive oral readers who comprehend little or nothing when the text has been read. These types of readers are considered to be a paradox since oral readers who display fluency and prosody are considered to have the highest comprehension since the reader is able to match the correct emotional inflection to the words.
CHAPTER 2: REVIEW OF LITERATURE

Models of Fluency

There are five different perspectives on fluency; the first is the recoding perspective, which centers on fluency relationship to meaning (Altwerger, Jordan, Shelton, 2007). This is achieved by decoding print words to oral language (Good & Kaminski, 2002). The reader interacts with the text and accurately interprets the text with oral word recognition; once the child decodes and pronounces the word, it is assumed that the word meaning is known. There is no discussion of the word meaning. The goal is accurate decoding of sounds of letters in words and pseudo words (Altwerger, Jordan, Shelton, 2007), and is reflected in DIBELS assessment or any other oral reading assessment with the primary focus on correct pronunciation of words. This perspective assesses if the child knows the most common sound for letters (letter-sound correspondence), and if the child blend the sounds of the letters with whatever comes before and after (phonological recoding) (Good et al., 2009). Any new word presented to a reader is considered to be a nonsense word until pronunciation and meaning are attached to the word.

The second perspective is automaticity, where reading allows effortless decoding of the words so the reader’s attention is focused on comprehension (Altwerger, Jordan & Shelton, 2007). In this perspective decoding does rely upon comprehension, but comprehension does not rely upon decoding (LaBerge & Samuels 1974). The measurement of this perspective is as if fluency is interchangeable with automatic word recognition, which is a prerequisite for comprehension. Comprehension is the goal of reading; it can only become automatic and permit the reader to focus on comprehension and not on low-level word recognition. This would seem to be a perspective for older and more experienced readers who most likely read silently to
acquire information in class, since the focus is not on decoding but on comprehension. The automaticity perspective is dependent upon the automatic or instant recognition of a word (Taylor, 2006).

The integrative perspective relies upon the schema of a child in tandem with decoding; it is believed speed and accuracy of vocabulary identification leads to comprehension (Altwerger, Jordan, & Shelton, 2007). Understandably the more exposure to written words the reader has attained the less decoding will be necessary. This perspective aligns itself with timed oral testing measures such as DIBELS and OSELA. Reading a passage accurately and coordinating it with the time constraints is the main focus of this perspective. It is understood that in regards to both oral fluency and silent fluency that as the reader progresses from educational grade to educational grade, their words per minute (wpm) read will increase as will the reading performance (Taylor, 2006). Both reading performance and speed of reading aid comprehension. The measure of accuracy faces controversy in how to regulate substitutions, insertions, mispronunciations, repeating words and phrases, omissions and hesitations (Rasinski, 1990). DIBELS, however, has taken dialect into consideration and instructed not to make dialect differences incorrect Good & Kaminski, 2002).

The interactive perspective uses the multiple linguistic cognitive cues such as schema, syntax, and text to result in accurate word identification; therefore, fluency is facilitated by comprehension and vice-versa (Altwerger, Jordan, & Shelton, 2007). It moves away from seeking word level assessments of reading, but moves to “chunking” or using phrases to create prosody (Allington, 2006). Students who can read with prosody demonstrate they understand what the gist is, though it may not be the most accurate; deviations from the text such as
omissions and substitution are allowed, but the meaning remains intact (Johnson, 2006). This perspective shows comprehension is not totally dependent upon oral fluency.

The final perspective is the transactive perspective. This perspective views fluency as “flow” or the rate at which the text is being read. How the reader, the text, and the author interact is a dynamic transaction, and as the reader progresses through the text comprehension is apparent (Altwerger, Jordan & Shelton, 2007). Each reader comes with different set of experiences, and therefore interest and life experiences influence how the reader will interact with the text in regards to speed and understanding (Flurkey, 1998). Miscues from the reader demonstrate a sense of the reader’s response to the text.

These five perspectives share many of the same components; comprehension and vocabulary assist in fluency. What exposure and acquisition a reader has to vocabulary is the determining factor of fluency, and hence comprehension. Fluency’s role in the reading process is steeped in theoretical debate.

There are the five different perspectives of fluency (Altwerger, Jordan, & Shelton, 2007). The diagram illustrates how the recoding model, the automaticity model and the integrative model are similar. These three models resemble flow charts where one part of the process must be completed to move to the next part of the fluency process. The recoding model is the most basic and would apply to a beginning reader since it only refers to fluency in the oral mode. Mainly, beginning readers are assessed by oral fluency. The automaticity model and the integrative model are the most similar since both end with comprehension as the final goal. The last two models, the interactive perspective and the transactional perspective resemble a Venn diagram where all parts of the fluency process are dependent upon each other, but still are represented as
individual components. Like the process, the final product is not a single entity, but a combination.

Figure 1: Fluency Descriptions

There are the five different perspectives of fluency (Altwerger, Jordan, & Shelton, 2007). The diagram illustrates how the recoding model, the automaticity model and the integrative model are similar. These three models resemble flow charts where one part of the process must be completed to move to the next part of the fluency process. The recoding model is the most basic and would apply to a beginning reader since it only refers to fluency in the oral mode. Mainly, beginning readers are assessed by oral fluency. The automaticity model and the integrative model are the most similar since both end with comprehension as the final goal. The
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diagram where all parts of the fluency process are dependent upon each other, but still are
represented as individual components. Like the process, the final product is not a single entity,
but a combination.

The interactive process will relate to this study as it is the most similar to how
comprehension and fluency interrelate. Without successful word decoding or recognition, both
comprehension and fluency suffer as a result; the focus on decoding a word interrupts the speed
of fluency and disrupts the ability to comprehend. Aiding decoding in this model is the
interrelated components of the text and the reader. The reader possesses background knowledge
and syntax understanding. Each reader has a different relationship with these two personal
reading components and how they are applicable to the text. The text supplies the visual
information the reader will interpret. The visual information, syntax, and background knowledge
all contribute to the reader’s ability to decode accurately. Comprehension and fluency are not
independent of each other in this model; the two reading skills are dependent upon each other.
This model, the interactive process, is relevant to both oral and silent fluency and its correlation
to comprehension.

Comprehension and Fluency Ties

Reading education’s main goal is to allow the reader to comprehend written text.
Comprehension is the blended result of phonics, vocabulary and fluency. Fluency allows the
reader to not spend time decoding words, but allows the reader to place energy on
comprehension (Rasinski, 2003). Fluency as defined by the National Reading Panel is one of the
critical factors needed for reading comprehension; it is when a reader is able to read with speed,
accuracy, and proper expression (National Reading Panel, 2000). Two of the other four pillars of reading may help comprise fluency -- phonemic awareness and phonics -- while vocabulary and comprehension are assisted by fluency and make these skills more attainable. Fluency was included in the National Reading Panel report, as was the close relationship between fluency and comprehension (Cassidy et al., 2010). Fluency allows the reader to put together meaningful phrases to make comprehension more concrete and attainable (Schrieber, 1980). This reading skill is an adaptive, context-dependent process that aids or hinders comprehension (Rasinski, Blachowicz, & Lems, 2006). The material being read may affect fluency due to the interest or familiarity with the subject in correlation to the reader (Chall & Jacobs, 2003). The more familiar a reader is with a text’s vocabulary, the more likely that automaticity will be used for word recognition rather than decoding. Decoding may cause a disruption in fluency since the decoding process takes time and interrupts the reader’s flow and thought process directed towards comprehension. Decoding is not reading, it is a part of reading (Taylor, 2006). When a reader encounters an unfamiliar word, a departure is made from reading to analyze the word in relation to the grapheme/phoneme to sound out, recognize the word, and then finally resume reading (Glass, 1973).

Simply decoding a word does not mean fluency will continue; after the word is decoded the reader must then attach a meaning to it to continue. When a word is initially decoded, information about the word’s orthography and context in which it is surrounded provide a general sense of what the word means (Stahl, 2003). Willingham explains the difficulty with decoding is that there's only so much room in working memory, and if students are constantly stopping, they lose the thread of the story they were trying to follow (2009). Student who try to
attach meaning to a word have redirected their focus from the reading skill of fluency to the reading skill of vocabulary.

Readers who struggle and stutter with decoding, attaching meaning, and chunking cannot focus their mental energy on comprehension because a majority of the reader’s effort is focused on getting the words pronounced correctly (Taylor & Gunter, 2006). A student’s focus when reading orally may become directed on producing acceptable oral expression and comprehension is de-emphasized (Taylor, 2006). Assisting the students with fluency will allow students to focus their goal on understanding the text and comprehension of the text. The skilled reader has the sense that reading is an effortless task thus allowing the shift from the conscious decoding of words to the construction of the meaning of the text (Bashir & Hook, 2009). The lack of fluency makes focusing upon comprehension an unattainable task, while the ability to separate a text into phrases aids comprehension (Rasinski, 2003). If a student reads at a too rapid rate, it could be classified as word calling and will result in little or no comprehension. Word callers are students who are decoders and read with high accuracy and unusually quick speed, but the readers have no comprehension of what was read (Dymock, 1993). Many times word callers are focused on the speed at which a passage is read and not what is being read; prosody is usually not present. Therefore, reading comprehension is reflected in the prosodic quality of oral reading. Erekson’s experiments on primary school children (2000) also demonstrate how prosody relates to comprehension. He suggests a strong classroom focused on oral language and oral reading closes the gap between prosody and comprehension. Prosody is not attained by most readers. In the Pinnell 1995 study only 13% of the fourth graders from a sample of 1,136 students read with prosody. It is suggested that comprehension is obtained once a reader utilizes suprasegmental cues (Rasinski, Blachowicz, & Lems, 2006). This allows for the reader to demonstrate
comprehension by the correct chunking of words, display of proper tone and pitch, and display of appropriate pauses. The ability to apply all components of suprasegmental cues allows for adequate reading speed (Rasinski, Blachowicz, & Lems, 2006). Aiding both fluency and comprehension is the skill of chunking words into meaningful phrases to produce an understanding of what the text is conveying (Knight-McKenna, 2008). Chunking while reading, or correctly using prosody, could regulate the speed of what is being read. When a reader employs a reading speed that is not too rapid or too slow, the reader is allowing for greater comprehension (Rasinski, 2003).

Fluency is the connection between word recognition and comprehension (Taylor & Gunter, 2006). This connection is applicable to both oral and silent reading. Fluency is evident in accurate, expressive, speed appropriate oral reading; when applied during silent reading it makes comprehension possible (Pikulski & Chard, 2005). Reading successfully is a complex interaction between the text and the reader. Fluency could be characterized as a multifaceted process including minimally two activities: (1) word identification or decoding and (2) comprehension, or the construction of the meaning of text (Pikulski & Chard, 2005). In order for the reader to be successful, the reader cannot focus attention on both processes; comprehension must become the dominant skill. Since fluency is a skill that is strengthened by practice, (Rasinski, 2003), it is important to strengthen fluency so that comprehension will be strengthened. Poor readers develop a disdain for reading and as a result read significantly less frequently than a strong reader (Allington, 1994). The effect is so intense that a poor reader may encounter and read as few new words in one year as strong readers read in two days (Cunningham & Stanovich, 1998). The more exposure a reader has to new words, the less decoding will need to be done while reading. The word recognition deficiency of a poor reader
commands that more attention be given to decoding, thus interrupting fluency. It could be concluded that without fluency, comprehension suffers.

Studies of Fluency

Many times when fluency has been studied, the most frequently studied mode of fluency is oral fluency. It is naturally easy to assess, with both time and number of mistakes being concrete measurements that allow results to be calculated quickly. Reading orally is a skill mostly utilized in classrooms below fourth grade; thus, one would surmise only the first one-third of reading education is being studied with the focus of basic oral fluency. Silent fluency skills are usually developed beginning in the fourth grade. It is the dominant mode of fluency used in middle and high school and for leisure reading. Although silent fluency seems to be the more dominant mode of fluency, there is a deficiency of studies focused on silent fluency.

In 1995, Pinnell et al. conducted a study sponsored by the National Assessment of Educational Progress using both oral fluency and comprehension. Using narrative text to elicit prosody, the fourth graders participating in the study were asked to read a passage they had previously read, *The Hungry Spider and the Turtle*. Students were asked to read the passage silently and answer three comprehension questions. It is unclear how the questions were administered and if the questions were answered orally or in written form. Lastly, the students were audio-taped reading the same passage, for the third time, to analyze oral fluency. Additionally, qualitative data was collected from each participant about their reading habits both in and out of school.

The study revealed that accuracy and rate were related. The more fluent readers read at a rate of 126 to 162 words per minute and possessed 96 to 97 percent accuracy. This was 55% of
the participants in the study, but only the top 13 percent of the 1,136 fourth graders could read with prosody, and were considered to have the highest rate of fluency. The less fluent readers read at the rate of 65 to 89 words per minute with a slightly less fluency level of 94 percent. The difference in rate for the slower readers is practically half of the more fluent readers. It could be inferred the reading rate was drastically slower due in relation to the high accuracy, since the reader perhaps read slowly to decode the words precisely. The findings showed more fluent readers read at a quicker rate without sacrificing accuracy.

Also noted in the study was the relationship between proficient oral fluency and proficient comprehension. It was determined that the slower the rate the student read, the poorer the comprehension. It was concluded that poor comprehension could be determined by the rate at which the student read. Also concluded was the notion that attentiveness to prosody would lend itself to comprehension of the text.

This study raised awareness of how comprehension and fluency are interrelated, but the design of the study seems to be supportive of repeated readings. Comprehension was only measured after the text had been read twice, and then accuracy and fluency were only measured after a third reading. Since the readings were the same for both silent and oral reading, it would question the validity of the oral accuracy measurement, especially since the repeated exposures to the text do not challenge the student’s ability to decode or properly use prosody upon immediately reading the text. The previous readings allowed the subject to practice reading the text, not test the reading ability.

In 2006, another study was conducted relating fluency and comprehension. Thirty-two fifth graders from a suburban school setting and working class families with the average age of
11 years old were participants in the study conducted by Mokhtari and Thompson. The study’s design had students complete two standardized reading achievement tests (one norm-referenced, one criterion-referenced), a fluency assessment reading battery, and test of syntactic awareness over a four week period. The reading skills tested by the assessments included reading fluency, decoding accuracy, assessment of reading rate, expression of prosody, and syntactic awareness. The assessments utilized were the Test of Language Development- Intermediate used to assess the students’ syntactic ability, and NAEP’s Integrated Reading Performance Record developed by Pinnell from the 1995 study referenced above to measure the three fluency components of accuracy, rate and prosody. The Gates-MacGinitie Reading Test measured the relationship of comprehension and fluency, and the Oklahoma Criterion-Referenced Reading Test assessed the students’ reading achievement based upon pre-established state curriculum standards.

The results revealed on both the norm-referenced and the criterion-referenced tests that there is a strong relationship between fluency and comprehension. The more syntax known or appropriately used, the higher the comprehension performance and fluency performance, and conversely the less syntactic awareness, the less comprehension was displayed in tandem with fewer words per minute read. The battery of tests used in this study did not use repeated readings of the assessment text. The measurement of fluency was assessed only using oral fluency. Again in this study it is shown a slower reader must take time to decode unknown words. When the focus is shifted from comprehension to decoding, it slows the individual student’s reading rate, which results in a lower comprehension score.

A most recent study using oral fluency to predict comprehension is the Wise et al. 2010 study. The purpose of the study was to examine whether different measures of oral reading fluency relate differentially to reading comprehension performance. Two groups of second
grade participants were compared; the first group sampled 949 students who had difficulty with nonsense-word oral reading fluency, real-word oral fluency, and oral reading fluency of connected text. The second sample of 146 second graders only displayed difficulties with oral reading fluency of connected text.

Assessments given to the sample population were the *Comprehensive Test of Reading Related Phonological Process*, which measures sight word efficiency and phonemic decoding; *the TOWRE*, a sight word test that increases in difficulty as it continues, the *Gray Oral Reading Test*, an assessment of fluency in terms of speed and accuracy; and the *Wechsler Individual Achievement Test*, which allows the student to orally read a passage once, and then the text is removed while comprehension questions are asked.

Results indicated that real-word oral fluency was the strongest predictor of reading comprehension and real-word oral reading fluency may be an efficient method for predicting potential comprehension difficulties. This is relevant since some oral fluency tests, such as DIBELS, utilize nonsense-word fluency as a segment of assessment for classroom achievement.

Many studies concerning oral fluency connect this skill closely to comprehension. Silent fluency is utilized beginning in fourth grade and into adulthood. A deficient number of silent fluency studies have been conducted (Cassidy, Valadexz, & Garrett, 2010). This is surprising since silent reading and its fluency have been studied as early as 1915. During the years 1915 to 1918 reading studies investigated the advantage of silent reading over oral reading (Smith, 2002). Their efforts showed silent reading was advantageous in both comprehension and speed; speed is one of the components of fluency. In 1915, Starch created a silent reading test that measured comprehension, the speed of reading, and the correctness of punctuation. It could be
interpreted today that the speed of reading insinuates fluency. Starch’s Silent Reading Tests contained one silent reading selection for each grade level in elementary school (Gray, 1916). The test evaluated silent reading speed and then the ability of the student to retell what was read, a comprehension assessment.

When Starch administered his silent reading assessment, he determined the importance of silent reading over oral reading since it was used more in practical life (Smith, 1965). Also determined by this study was that silent reading allowed the student to read more words per minute silently than orally. The sample population was not defined for this study. Due to Starch’s findings, numerous silent reading tests emerged in 1918, these include: The Brown Silent Reading Test, the Kansas Silent Reading Test, Courtis’s Silent Reading Tests, and Monroe’s Standardized Reading Test. The silent reading tests assessments tested the speed of silent reading and the ability to comprehend what was read. These tests emerged to increase silent reading in the classroom since it was found to be more beneficial than oral reading.

More recently, silent fluency is being examined due to a growing population of older elementary students. Speece et al. published a study in 2010 to identify and develop a universal screening battery for this population. The population consisted of 230 fourth grade students from 20 classrooms in 15 parochial schools. The average age of the students was 9.45 and all students used English as their primary language.

The battery of tests given were to assess each student’s reading comprehension, oral language, word recognition, word decoding, phonological processing, and spelling. Reading comprehension was measured using the Gates-MacGinitie Reading Test. This is a norm-referenced test where students have 35 minutes to silently read short narrative and expository
passages, and answer multiple choice comprehension questions. In addition Maze, a cloze technique, allowed the students two minutes to complete as many choices as possible. Both of the reading comprehension assessments were group-administered. Oral language was assessed using the Clinical Evaluation of Language Functions. This individually administered norm-referenced assessment of language prompts students with a word or illustration to construct semantically or syntactically correct sentences. The Gates-MacGinitie Reading Test was also used for the listening comprehension portion. Three passages were read aloud followed by 16 multiple choice questions. The questions were presented orally and in print after the passages were read. Word recognition and decoding utilized two of the TOWRE’s subtest. One subtest was the Sight Word Efficiency test used for the word recognition portion, and another subtest, the Phonemic Decoding Efficiency test, assessed the students’ skills in decoding nonsense-words. Phonological processing was assessed with the Comprehensive Tests of Phonological Processing. Individually, students orally delete syllables and phonemes of a word and then pronounce the resulting word. The last assessment in the battery was Spelling Fluency to measure spelling capabilities. For two minutes a new word is randomly drawn every ten seconds from the Harris-Jacobson Grade-Level list and the student is asked to spell the word. All students participating in the study were given the individual tests in the same order.

After the all data was collected three reading skills were clear predictors of what fourth graders were considered “at-risk” readers. These assessments were reading comprehension, word recognition/decoding, and word fluency. The three predictive reading components assist in identifying older elementary students who could benefit the most from reading intervention classes. It is important to note that the students used in the study were fourth graders, since this is the grade where the majority of classroom reading transitions from oral to silent. Two of the
three most effective assessments used for diagnosing a student with a reading deficiency were assessments of silent reading. The Gates-MacGinitie Reading Test administered for comprehension and the TOWRE both employ silent reading fluency skills to determine the proficiency of the reader. The battery of reading tests used in this study for assessment would be useful to students who have begun to transition or have transitioned to silent reading.

In a most recent study conducted by Young-Suk, Wagner, and Foster in 2010, both oral reading fluency and silent reading were examined in relation to comprehension for 312 first grade students. The study examined four relationships of the students’ reading. The first was to determine whether oral and silent fluency were manifestations of a single reading ability or possibly two distinct or distantly related abilities. The second relationship was to use oral and silent reading fluency as predictors of reading comprehension. The third relationship was to examine the components used to determine proficient oral and silent fluency. Finally the study utilized the results to determine if the variation of results varied due to the student’s individual reading level.

Data was collected for reading fluency using list reading, oral reading and silent reading assessments. Oral reading fluency was assessed using three first grade passages using DIBELS; silent fluency used two forms of the Test of Sentence Reading Efficiency and Comprehension; and to assess list reading fluency, two forms of the Sight Word Efficiency subtest of the Test of Sentence Reading Efficiency and Comprehension served as the instrument used to measure fluency. The Woodcock-Johnson III Oral Comprehension subtest was given in tandem with an experimental listening comprehension task to evaluate the students’ listening comprehension. Reading comprehension was assessed by utilizing the Woodcock-Johnson III Passage Comprehension subtest and the Woodcock Reading Mastery Test-Revised in addition with two
experimental passages developed for this study. Four indicators of reading comprehension were utilized. Lastly, word reading accuracy was assessed using the Woodcock-Johnson III Word Identification Subtest. This subtest allowed for the participants to be divided into two groups; relatively good readers or poor readers. All of the assessments were administered on an individual basis except for the silent reading fluency measure, which was group administered.

The results indicate that oral reading fluency and silent reading fluency possess highly related underlying skills for first grade students. A stronger relation existed for more proficient readers. As the skill level decreased, so did the strength of relationship between oral and silent fluency. A positive relationship between listening comprehension to oral and silent fluency was observed in skilled readers, but not in the less skilled readers. The results of this study also indicate that skilled readers connected text reading fluency tends to be apparent in either silent or oral mode and exhibit a positive relationship to comprehension. Less skilled readers’ performance, however; are more influenced by the reading mode, either oral or silent. Oral reading skills show a positive relationship to comprehension, whereas, silent reading shows no connection to comprehension.

This study also made apparent that the less skilled readers apply their cognitive resources to decoding, which diminishes their focus for language comprehension. The use of list reading fluency assessment assisted in this diagnosis. It was determined that connected text reading fluency may involve postlexical processes that are not captured in a reading list fluency assessment such as semantic and syntactic processing. Using words in a semantic and syntactic manner allow for comprehension to be measured more accurately than list assessments. List fluency is more dependent upon word recognition, whereas semantic and syntactic use of the
same words assigns connotation and relationships to the words making comprehension more complex.

The importance of silent and oral fluency and the impact both have on comprehension was addressed in this study. Although the students are in the early stages of education, it is not too early in for reading instruction to assess silent fluency, but this study took into consideration the students’ exposure interaction with silent fluency through independent reading time and reading instructional techniques such as, partner reading and round robin reading. First graders in this study were exposed to silent fluency for half of a school year in a battery of methods, making them ideal participants.

All but one of the assessments was individually administered except for the silent fluency. The silent fluency assessment was as important as the oral fluency assessments. If the silent fluency assessment was given individually, then individual behaviors that impede silent fluency could be observed and correlated to the student’s score. These behaviors include using one’s finger to follow the text being read, vocalizing words, or mouthing the text. Correlating the scores to the behaviors could assist in deciding if these behaviors should be stopped as early as first grade.

National Concern for Fluency Instruction

Our understanding of what constitutes fluent reading has expanded considerably since the National Reading Panel report. The report highlighted the critical need to improve teacher knowledge about reading instruction in order to address the urgent national priority of helping all children learn to read by the end of third grade (National Reading Panel, 2000). The meta-analysis conducted by the National Reading Panel in 2000 deemed fluency as an essential
reading component necessary to be taught to developing readers. What once was characterized solely by fast and accurate word recognition has grown to include a number of component skills. Fluency has been viewed as essentially an oral reading phenomenon, but the National Reading Panel report in 2000 applied fluency to silent reading as well (Pikulski & Chard, 2005). Accuracy, rate, and prosody work together to build fluency. It is now apparent fluency is not a “natural” reading skill acquired, but a skill that must be developed and practiced (Rasinski, 2003). As supported by the National Reading Panel Report, practice should be executed both orally and silently. After reviewing the studies about fluency, the National Reading Panel came to the conclusion that “Children who do not develop reading fluency, no matter how bright they are, will continue to read slowly and with great effort.” The inability to read without pause and effort greatly affects the key purpose of reading, comprehension. Children who fail to make a transition to fluent reading will encounter significant difficulties in contracting meaning from the text being read (Stahl & Kuhn, 2002).

The No Child Left Behind Act (NCLB) mandates that all states adopt a curriculum that identifies the skills students will need to master in grades kindergarten through twelfth grade. Success is measured based upon the scores students receive on standardized tests given each year. The NCLB Act directs schools to focus on raising standardized test scores; higher school test scores should mirror students who are achieving more individually (Guisbord & Neill, 2004). It has been determined that fluent readers score higher on standardized tests (Krashen, 2004). It is important to remember that most standardize tests are administered silently; therefore, utilizing the student’s silent fluency ability. If a student’s, or in a larger sense, a school’s test scores can be raised by the skill of fluency, it is no wonder schools are assessing a child’s fluency and using it as a measuring rod for proficiency as a reader. The importance of
developing fluency has been a neglected part of reading instruction even though many reading authorities regard this skill as an important component to reading instruction (Reutzel & Hollingsworth 1993). Fluency reemerged in 2003 as a hot topic in reading education (Cassidy, Valadez, & Garrett, 2010; Cassidy & Cassidy, 2002). Combining the National Reading Panel’s indication of fluency being one of the five major components of reading in tandem with the No Child Left Behind Act, fluency is a skill that has been brought from obscurity to the forefront; it is included in state curricula as part of reading instruction.

Research has indicated an overwhelming number of elementary students are not sufficiently fluent to comprehend what they are reading. In 1995, a study showed one half of fourth graders who participated in the study lacked the fluency to comprehend what they read and fewer displayed the oral fluency skill of prosody (Pinnell et al.). The recent reemergence of fluency and its relationship to successful comprehension led to fluency being included in the Reading First program. Reading First is a federal education program in the United States mandated under the No Child Left Behind Act. The program requires that schools funded by Reading First use "scientifically-based" reading instruction (Cummins, 2006). Research suggests that programs aligned with scientifically-based reading research include effective designed fluency instructional strategies (Al Otaiba, 2005). Examples of scientifically-based strategies to build fluent reading include echo reading, shared reading, and repeated reading. Teacher’s guides include suggestions for differentiating fluency instruction and increasing oral reading fluency practice time using techniques such as modeling, using partner reading, or peer tutoring (Al Otaiba, 2005).
Louisiana and Reading First

Many elementary schools receive Reading First funding and use oral fluency assessment data as documentation to continue receiving funding. DIBELS is an example of acceptable oral fluency testing and uses the measurement scale of Words Correct per Minute (Altwerger, Jordan, & Shelton, 2007). Reading First is not a mandated program like the No Child Left Behind Act. It is a voluntary grant program, thus schools are required to provide documentation that the grant money is being used for reading education (Rasinski, Blachowicz, & Lems, 2006). The grant’s focus is on fluency and comprehension.

Reading First is a voluntary federal grant program that allows states to apply for grant money to participate. This program is important to this study since it funds fluency assessments and instruction. Data collected by the Louisiana State Department of Education have shown an improvement in fluency scores. In 2006–2007, there was a decrease in the number and percentage of students in each grade, grades 1 – 6, scoring “at risk” on the DIBELS fluency assessment (Asmus et al., 2007). The data collected only relates to oral fluency solely, there is not a recommended silent fluency test from the Reading First Program. Similarly, there has been an increase in the number and percentage of students considered to have a “low risk” of future reading difficulties as measured by the DIBELS assessment (Asmus et al., 2007). Another group showing progress cited in the report is that there is generally an achievement gap closure for race, free or reduced price lunch program participation, and special education; especially in third grade where the gap is almost non-existent in either performance or growth (US Department of Education, 2009). Louisiana, unlike other states, is one of the states that did not have data collected about the comprehension portion of DIBELS.
Louisiana is a state showing gains in fluency and benefitting from the Reading First curriculum and recommended DIBELS assessment. Louisiana began receiving funds for Reading First in 2002, which is only two years after The Nation Reading Panel published its finding and named fluency as one of the five major components of reading. When students in the Reading First Program were compared to students who are not in the Reading First Program the biggest difference was seen in kindergarten. The Reading First students showed a higher end of the year DIBELS scores by eight points. As the grade levels increased the points gained by the Reading First students was about three points (Asmus et al., 2007). Also noted in the data gathered by the Reading First Program, Louisiana noted that the students in special education also benefited from the program. Students in special education showed a gap closure to the regular education students; this was especially apparent in second and third grade (US Department of Education, 2009).

The Reading First Program offered guidelines to help create a successful reading program at schools, but after 2008 financial support from the Reading First Program was no longer available. Louisiana answered this financial deficiency with the Ensuring Literacy for All Initiative (ELFA). The Louisiana Department of Education instituted this program to assist schools that were already in the Reading First Program, but were beginning to receive less funding from the federal program. Like the Reading First Program, funding is applied for and based upon the availability of funds. Schools are selected based on this initiative focus upon PreK-fourth grade learners with the goal to have all participants reading and writing at or above grade level by third grade (Louisiana Department of Education, 2010). To be eligible for state assistance schools must be an at-risk school. The students are given reading interventions daily and their progress is assessed every two to three weeks (Asmus et al., 2009). Most schools in
ELFA were previously schools that were already in the Reading First Program. This initiative uses several guidelines developed by the Reading First Program (Asmus et al., 2009). Both programs are based on using scientifically based reading research with professional development, assessments, and materials resulting in a comprehensive instructional approach for reading. Since ELFA’s initiation in 2004, schools participating in the initiative are showing significant gains; evaluators found that students are benefitting from the Louisiana Department of Education’s literacy initiative, demonstrating greater improvement than students not enrolled in participating schools (Asmus et al., 2009). It is noted in the research that the students entering school with the least amount of literacy skills in PreK and Kindergarten are benefitting the most from this literacy initiative. Also like the Reading First Program, ELFA is helping close the gap for special education students and the students at an at-risk school (Louisiana Department of Education, 2010). Student achievement, as measured by DIBELS and the integrated Louisiana Educational Assessment Program (iLEAP), is how the progress of ELFA is being monitored (Asmus et al., 2009).
CHAPTER 3: METHOD

Overview

There seems to be a lack of attention given to silent fluency when students use this mode of reading for the majority of their education after third or fourth grade. Fluency, especially silent fluency, has not been the subject of research studies until it was brought back into the forefront by the National Reading Panel. The lack of predictors for silent fluency success hinders the teacher’s ability to prepare students for the transition of being a predominantly silent reader. Identifying a predictor for silent fluency difficulties could help set in place interventions to prevent the fourth grade slump and other reading difficulties that widen the gap between success and failure. The principle purpose of this study was to compare oral and silent fluency in an equivalent and corresponding method so that a parallel comparison may accurately show which type of fluency is stronger in fourth grade students. Typically fourth grade students have transitioned from ascertaining and practicing basic reading skills to reading independently in order to acquire knowledge. When students reach the fourth grade, focused reading instruction usually ceases. It is important to explore the students’ silent fluency since it will be more likely utilized from this time forward for both scholastic and recreational purposes. For both oral and silent fluency, there exist tests to determine the speed and the accuracy at which a child reads, but the tests differ so greatly that it is difficult to make a comparison of the two types of fluency. This study allowed an equivalent measure of the student’s oral and silent fluency employing comprehension as the measurement tool.

With this study the goal was to answer the following four questions that attempt to bridge the gap of analysis between silent and oral fluency:
1. What is the relationship between oral reading speed and silent reading speed for the same passage?

2. What is the relationship between speed of reading, both orally and silently, and comprehension?

3. What is the relationship between the number of mistakes made while reading a passage orally and comprehension? In addition, do self corrections influence comprehension?

4. How accurately will the number of mistakes made while reading orally act as a predictor for the amount of comprehension errors made while reading silently?

Subjects

Forty-eight regular education, fourth grade students were selected for the study based on several factors. Excluded were students labeled special education, students who received accommodations, and students enrolled in a reading intervention class. All students in the sample used English as their first language. A small sample size, for practical reasons, may be the most responsible design and its use can be conducted meticulously and carefully and to establish validity (Osborne, 2008). Students selected for the study were in the second semester of the fourth grade. Fourth grade was the desired grade for this study due to the transition of reading orally to reading silently. They were tested after completing one semester of fourth-grade, so the transition from oral to silent reading was not novel but more of a routine.

The students selected for the study all attended an urban elementary school where 98% of the students received free lunch. The majority of students were from a low socioeconomic area; this factor is influential in reading development since typically students from low socioeconomic areas possess a less developed vocabulary relative to children from middle or high
socioeconomic status (Chall & Jacobs, 2003). When children have assembled an extensive vocabulary that they can recognize, pronounce, and connect to their schema, they are able to focus less on print and decoding and more on comprehension (Barr and Johnson, 1991). Vocabulary knowledge is an influential factor of fluency. The larger the vocabulary a child possesses, the more likely the student will possess fluency that aids comprehension (Chall & Jacobs, 2003).

The school served 383 students from kindergarten to fifth grade. The school was comprised of 52% male and 48% female, and the population is 98% African-American with the remaining 2% being comprised of Caucasian and Asian students. The majority of students were bused in from a low socioeconomic area to the school located in an upper middle class neighborhood. Many of the students in the neighborhood do not attend the school but rather, attend private or parochial schools. On an average day 25 of the 383 students were absent. The school is classified as Title I referring to the government program whereby funds are provided to assist disadvantaged students. Several ancillary programs were established and utilized at the school to help assist students with education, physical fitness, and enrichment activities. One of the most successful programs at the school was the Everybody Reads program. This program coordinated a Reading Friend, an adult volunteer, with an individual student at the school. The Reading Friend came to the school weekly for a 30 minute period to read with the child, play word games, or assist with teacher-directed activities. A library of books was donated to the school to be dedicated to this program. Reading Friends are able to select books from this dedicated library, the school library, or bring in any reading material from their homes. There is no shortage of quality, age-appropriate materials. This is the fourth year the program has been in place at this elementary school.
Other programs instituted at the school to aid the students included a **Big Buddy** program that manages an after-school enrichment program that included busing the students home after the program. The activities offered by **Big Buddy** included singing instruction, dancing instruction, a computer club, a variety of intramural sports, and other enrichment programs. Also coordinated by **Big Buddy** is the **Girls on the Run** group that offered a running club for girls. Like **Big Buddy**, **Girls on the Run** is a national not for profit organization that encourages girls to develop self respect and a healthy lifestyle. It should be noted that all of the after-school programs were staffed by volunteers.

**Data Collection Methods**

A pre-test assessment using Form A of the *Classroom Reading Inventory, 11th ed.* was administered to each student participating. This is an appropriate test to determine a student’s reading level according to *The Mental Measurements Yearbook*. This assessment determined the student’s reading level using the components of word recognition, oral reading of paragraphs, comprehension assessed from oral reading, and listening comprehension assessed from teacher-read material. Once the student’s independent reading level was determined, appropriate, grade-level passages of 4.5 were assigned for oral and silent fluency analysis.

Each participant from the sample met once a week for four weeks with the researcher. The participant read an oral passage followed by five comprehension questions asked by the researcher. The same procedure would be followed for the silent passage. Based upon individual *Classroom Reading Inventory* results, students were given a passage of approximately 100 words to read. The passages corresponded to the determined reading level of the individual
student. Reading passages came from a Harcourt series of controlled readers with the grade level predetermined by the Houghton Mifflin Harcourt Publishers for validity purposes.

The five comprehension questions asked after completion of the reading were asked without allowing the student to refer back to the text. Each set of questions included a vocabulary question, where the student was expected to explain the meaning of a word and how it was used in the context of the story. An inference question asked the student to use cause and effect relationships to determine an answer was used. Another type of question that was asked was a literal comprehension question where the student would correctly retell an event or fact from the passage. The fourth type of question the reader would be asked to respond to was about the main idea or what would be a good title for the passage. Lastly, the student was asked to give a supporting detail for the main idea.

The different type of open-ended comprehension questions encompassed a range of thinking skills. These skill levels were created by Applegate, Quinn, and Applegate in 2002 for a study they conducted involving thinking levels used in comprehension for informal reading inventories. The most basic level of thinking used literal items or questions where the answer was found in the text. It is only asks the reader to simply recall what was read. Out of the five questions asked, this would be the recall question and the supporting detail question. A low-level inference item question is more difficult than a recall question; it required the reader to make an inference that can easily be made by the reader since the information is in the story. The main idea comprehension question is classified in this category. Readers were asked to title the passage read; the information used to title the passage was plucked from the text. The inference question was categorized as a high-level inference item. This type of question required the highest level of thinking. The answer to the question is not in the story, so the readers had to
gather from personal experience a reasonable answer to the cause and effect question. The vocabulary question category used in the study would fluctuate between the low-level inference item and the high-level inference item. The definition for the selected vocabulary word was not in the story, but based upon the personal experience and exposure of the reader this question could be grouped into either inference classification.

Open-ended comprehension questions were selected since open-ended questions, unlike multiple choice questions, are able to supply more information about the individual reader’s ability (Applegate, Quinn & Applegate, 2002). The order of the comprehension questions is random. However, the main idea question was always followed by the supporting detail question. The comprehension score for each passage ranged from 0, meaning no comprehension was evident, to 5, meaning all comprehension questions were answered correctly.

To assist with understanding how fluency is incorporated into reading instruction at the school where the study was conducted, interviews were conducted with eight random participants in the study, the fourth grade teachers, the principal of the school, and the reading coach. All interviews were executed after the research involving oral and silent readings by the students was complete.

Students were asked the following questions and the researcher recorded the student’s responses.

1. Do you like to read a book aloud or silently?
2. When you read aloud do you think you read fast or slow?
3. When you read silently do you think you read fast or slow?
4. Does your teacher aloud to the class?
5. Do you have time at school where you are assigned to read silently?
6. Do you remember a story better if you read aloud or silently?
7. Which do you like more, reading on the computer or reading a book?
8. Do pictures slow you down when you are reading?
9. What type of things do you enjoy reading the most?
10. Do you like to read outside of school?

Teachers, who employ reading instruction and fluency strategies, were asked to answer the following questions:

1. Do you feel fluency instruction is integral to learning?
2. How do you feel fluency and comprehension are related?
3. What instructional methods are utilized for fluency instruction?
4. What instruments or methods are used to measure the student’s fluency?
5. How often is fluency assessed?
6. What percentage of oral reading is used for instruction versus silent reading?
7. What subject areas utilize silent fluency the most?
8. What strategies are utilized the most for comprehension to assist silent fluency?
9. Which type of fluency, silent or oral, do students exhibit the strongest comprehension?
10. Do slower readers exhibit stronger, equal, or less comprehension than more fluent readers in your classroom? Is this the same for oral reading and silent reading?

The principal and reading coach, who act in a leadership capacity, were given the following questions:
1. Do you feel fluency instruction is integral to learning?
2. How do you feel fluency and comprehension are related?
3. Do you find there is effective curriculum in place for fluency instruction given by the state or federal government?
4. Is fluency instruction included in content area instruction?
5. How is the transition from oral reading to silent reading handled?
6. How do you think fluency should be assessed?
7. Is fluency one of the factors considered when placing students in intervention reading classes?
8. Do you feel reading intervention classes are effective in regards to fluency?
9. When do you feel fluency instruction is needed the most; what grades are most in need?
10. How is the fluency curriculum decided upon for the school?

Input from all facets of the fluency instructional process is an essential part of this study. The perceptions and attitudes expressed by the teachers, who facilitate fluency education to the students, can help understand how the participants learned fluency and the attitude towards fluency in the classroom. It also allowed for any concerns to be expressed by the educators of the participants allowing for a clearer representation of how and what has been taught in regards to fluency. Interviews completed by the principal and the reading coach provided background information about how the school’s instructional plan for fluency. The interviews established from the administrative point of view if the programs instituted for fluency at the school were successful or unsuccessful and if changes needed to be made to the fluency curriculum. Finally, the participants themselves provided information about their own perception of fluency. The
interviews provided a cohesive view of fluency instruction at the participant’s school that the data collected from the readings could not provide.

Limiting Nuisance Factors and Bias

In setting up the experiment, it was important to determine how to control for numerous “nuisance factors.” These were variables of no interest to the experiment – gender, order etc. that might affect the outcome. To control these factors, a randomized block design was utilized. The method was to create homogenous blocks where the nuisance factors are held constant and the factors of interest are allowed to vary. In this experiment, factors like gender were carefully recorded and checked later for variability.

Another issue was randomizing placements of students and passages. This was achieved by selecting participants anonymously by assigning them a random number from a random number generator. The choice of reading the passage orally or silently was also selected randomly by the computer.

Potential nuisance factors can also be categorized as biases. The experiment limited numerous potential problems by removing English Language Learners and students classified special education from the sample population.

Biases when reading the eight fourth grade level passages could include several factors. One of these factors could include familiarity of the topic. The eight passages selected were from a series of Hancourt Brace written stories. The stories were written on a fourth and a half grade level. This was the appropriate level since the students were being tested in February and had completed half of their fourth grade year. The topics selected were on common topics, but the details in the story would make the passages unique. The study was designed for the students
to be unfamiliar with the topics that would be read about. This would test the student’s ability to decode in tandem with fluency.

When passage one, about turtles, and passage two, about crocodiles, were assigned, the grade level was immersed in learning about marshes, bayous, and swamp lands. The students were familiar with the vocabulary presented in both of the readings. The questions, “Where do crocodiles live?”, “What is a cold-blooded animal?”, and “How is the word ”prey” used in the story?”, were easily answered. This could have been because the students had an interest in the reading material since the class was covering the same material in their science and social studies classes and were applying their previously learned knowledge, or it could have been because they had excellent comprehension. This could have included the student’s schema in relation to the eight passages to be read. Students who were more familiar or had experience with a specific topic covered by one of the passages were more likely to answer the comprehension questions correctly.

Another bias was how the child feels on the day of testing. Attitude and cooperativeness could affect a child’s performance positively or negatively. Participants who have a low interest in the material covered by the assigned text could have a negative effect on fluency and comprehension. When assessing elementary students, it is important to test several times to establish a norm for each participant. This allowed abnormal testing to be identified and a norm to be established.

A strength that contributed to the construct validity was the use of a single researcher collecting the data. This made the collection of data consistent. This consistency ensured all oral mistakes, self corrections, responses to comprehension questions were all marked with the
same discretion. Also the procedure for the time keeping, how the questions were asked, and where the research took place was consistent.

Internal validity could have been threatened if the students who read the passages discussed the passages or questions with other participants before their time to read the passage. This would have been unlikely since after the participant engaged in the passage readings they returned to physical education and became occupied with the game or the activity already in progress. Conversely, internal validity could have been increased by the subjects willingness to participate. The participants viewed the one-on-one time with the researcher and the time away from the physical education class to be a reward, especially as the weather became warmer. Also the researcher rewarded each participant after each of the four sessions with a lollipop.

A concern for external validity was inconsequential. The researcher and the participants were from different ethnic and socioeconomic backgrounds. The only possible affect would have been in the answering of comprehension questions that need an elaboration. The researcher could have misconstrued the answers given by the participant and interpret the answer to be incorrect. This would only pertain to the inference, or the cause and effect, questions where the correct response to the comprehension question is not found in the story. The recall question, the vocabulary question, the main idea question along with the supporting detail question all had answers that could have been derived from the passage. These are the type of questions where schema and personal experience play a chief role in the construction of the answer. It is important to take into consideration that different socioeconomic backgrounds may perceive different answers as the correct one. Sensitivity to the differences should be taken into consideration when categorizing the answer as correct or incorrect.
The questionnaire given to the students, teachers, reading coach and principal did not bias the study. The questionnaire was administered after the passage data collection. The questionnaires were also designed to be open-ended so that multiple choice answers would not limit the available responses. Limitations of responses could have skewed results if the desired answer was not a choice and an available choice was selected instead.

To eliminate bias in marking the oral readings, the following guidelines were pre-established and followed. Readers who mispronounced a word more than once, but mispronounced it the same way each time was only marked once for a mistake. If the reader mispronounced a word and then self-corrected, the word was still marked incorrect, but each self-correction was noted. Self-corrections were totaled for each passage the same as the mispronunciations. One mistake was tallied for each word that was omitted, if the student went back and reread the sentence and added the word, a self-correction was given credit. If the student substituted another word for what was in the passage, a mistake was marked, and if it was self-corrected, credit was given. Another type of error made reading was the repetitions or repeated readings when the student continued to read the same word or group of words.

Data Analysis Methods

Rigorous statistical data analysis goes beyond plotting points on a graph, drawing a best fit line, and calling that a regression. There are specific challenges related to identifying confounding variables and minimizing their effect, setting up pertinent experiments that consider the sample size, data spread, and confidence intervals. For this reason, a professional statistical program becomes necessary. In this experiment, JMP Pro by SAS was used for all statistical analysis. Developed by John Stahl, it performs complex statistical analysis and links the data to
graphs. It is compatible with several data collection systems such as Microsoft Excel which is used throughout the experiment to organize data. JMP provides a comprehensive set of statistical tools as well as statistical quality control in a single package.

To answer the four main questions, it is important to first analyze the possible nuisance factors. In particular, while the eight passages were meant to be very similar, it is important to check for outliers. If passage x is an outlier for the reading time, for example, then passage x has to be removed from the analysis of reading time and comprehension. Thus, t-tests were run to determine if any passages were outliers for comprehension, oral and silent reading times, the number of mistakes, corrections, and other variables.

Passage analysis from above leads into the first research question: the relationship between oral reading speed and silent reading speed of the same passage. Matched pair t-tests compare the relationships between passage reading speeds. It is predicted that oral reading speed is slower than silent reading speed.

Analysis of the second research question: the relationship between speed of reading, both orally and silently, and comprehension was performed using a bivariate graph of the two variables, fitting a best fit line, a corresponding R-square value, and regression formula if pertinent. It is predicted that a median time will produce the highest comprehension. If the passage is read too quickly, the student will only be focused on completing the task, not comprehension; the student who reads the passage too slowly will likely be struggling with decoding unknown words in the text and fluency will suffer, thus comprehension will suffer.

The procedure where a bivariate graph was used, was replicated for the last two questions (the relationship between the number of mistakes made while reading a passage orally and comprehension, and whether the number of mistakes made while reading orally acts as a
predictor for the amount of comprehension errors made while reading silently). It was predicted that more oral reading mistakes translates into fewer correct comprehension responses. For the last question, it was hypothesized the same pattern of mistakes made reading orally will be the same mistakes made silently.
As discussed in chapter 3, to answer the four questions, there has to be some initial analysis of the biases and systemic issues within the passages. Though the eight different passages are meant to be very similar, each containing one hundred words, written by the same publisher at a fourth grade and a half reading level, it is nonetheless important to see if there are any outliers that influenced results.

The first test performed was to check for outliers in the silent and oral reading time. Since several of the main questions deal with reading time, any passage that differs in a statistically significant manner from all the other passages should be avoided. For this test, a matched pair t-test is used. A t-test simply asks, what is the probability that based on the data, the mean of one group is different from the mean of the second group. In statistics of course, all data has spread and every mean value has an associated confidence interval. Thus, JMP performs the complicated math of comparing the two probable means of different sample sizes, and decides what the odds are that one is different from the other. When t<0.05, (the standard 95% confidence) there is a significant difference between the two mean values. Additionally, there are a few ways to have a t-value, because we can be asking three potential questions. What are the odds that one average is bigger than the other? What are the odds that one average is smaller than the other? Or what are the chances that they’re different in general. Since this is an instance of looking at outlying passage reading times; it is the third case that we employ. In this case, a t< |0.05| indicates a statistically significant difference in both directions. Table 1 below shows the result of this initial analysis.
Table 1: Initial Analysis of Reading Passages

<table>
<thead>
<tr>
<th></th>
<th>Oral Time (seconds)</th>
<th>Silent Time (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average of all Passages</strong></td>
<td>62.2</td>
<td>53.0</td>
</tr>
<tr>
<td><strong>95% Confidence Interval</strong></td>
<td>[60.1, 64.3]</td>
<td>[50.9, 55.0]</td>
</tr>
<tr>
<td><strong>Outlying Passages</strong></td>
<td>2, 3, and 6</td>
<td>3, 4, and 5</td>
</tr>
<tr>
<td><strong>Average in Outlying Passage</strong></td>
<td>52.1, 76.6, 66.7</td>
<td>55.1, 66.4, 58.7</td>
</tr>
</tbody>
</table>

The second row of the Table 1 indicates the confidence interval of all the passages combined and then in row 4 it shows the average of the outliers. For the oral time, passages 2, 3, and 6 were found to have statistically significant differences in their reading time. It turns out passage 3 was an outlier for both oral and silent reading. In both cases passage 3’s mean time was above the confidence interval; the silent mean was 62.2 seconds with a confidence interval of 60.1 to 64.3 seconds, and the oral mean was 53.0 seconds with a confidence interval of 50.9 to 55.0 seconds. Passage 3 had an oral mean time 76.6 seconds or 14.4 seconds longer; the silent mean time for passage 3 was 66.4 seconds or 13.4 seconds longer. Upon examination of the passage, there are several multi-syllable words such as butterfly, photography, and photograph. When this passage was being read orally, photography was often mispronounced as /foto-graf-e/, but usually self-corrected when the word photograph appeared later in the passage. Also the unfamiliar names of the flowers using the ‘ies’ suffix, lilies and daisies, added decoding time to the reading of the passage.

Two other passages were also outliers for the oral reading time, passage 2 and passage 6. Passage 2 was about turtles and this passage had familiar words and concepts since swamps and reptiles were the current unit being studied in science and social studies. The familiarity is most
likely the factor for the speed. The oral mean was 62.2, but the mean time for passage 2 was 52.1 seconds or 10.1 seconds faster. The other outlier was passage 6, *Harry and the Telescope*, this passage again had multi-syllable words, telescope and outer-space. Another variable in this passage was that it was written as a dialogue, instead being presented as paragraph only form. The mean for this passage was 66.7 seconds or 4.5 seconds longer than the mean for oral time.

The mean time for the silent passages was 53.0 seconds with a confidence interval of 50.9 to 55.0. Besides passage 3 that was previously discussed, two other passages were categorized as outliers, passages 4 and 5. Passage 4 was about a girl taking violin lessons. When the comprehension questions were asked, many of the students did not correctly pronounce the word “violin” in their responses. Many of the students substituted the word “villain” for “violin” or pronounced it as /ve-o-lin/. Even if the reader knew what a violin was, not being able to recognize the word hindered their fluency due to decoding difficulties. Other difficult words in the passage revealed during the questioning was rosin, pronounced /ro-sin/, and the word mysterious that was changed to the noun mystery. The average time to read this passage was 66.4 seconds, 13.4 seconds longer than the mean silent time of 53.0, the longest time to read a silent passage.

Passage 5 was also classified as an outlier due to the lengthy amount of time needed to read it silently. This passage had a mean of 58.7 seconds to read silently 5.7 seconds longer than the average time to read the other silent passages. This passage was also a written as a dialogue, but was about a familiar topic, softball. There may be a correlation between the silent reading time and the format in which a text is written. It seems that the two dialogues took longer to read than the passages written in narrative format.
Another test was performed to determine if the order of the passages made a difference. The figure 2 is shown below. Two plots graph a data point for each student. On the x-axis are the two reading order options. On the y-axis, the number of comprehension questions correct. A mean, standard deviation, and confidence interval are derived for the comprehensions in each category. Since the 95% confidence intervals have overlapping values from [3.3, 3.6] for the silent graph, and [3.8, 4.2] for the oral graph, there is no statistically significant difference in which order the students read the passages.

Question 1: Oral and Silent Reading Speed

There is now a basis to answer question 1. Looking at Table 2 it is apparent that oral reading times should take longer than silent reading times. This finding is supported in the literature. The question is, how much longer does reading orally take and are there outliers? The table below shows a matched pairs analysis for each passage’s oral reading time minus silent reading time. The sample size, mean, standard error, confidence, and t-test are reported.

As discussed previously, children read more quickly silently than orally. Thus, any passage where it cannot be determined which method of reading took longer is either dubiously constructed, or has too little data to prove the norm conclusively. The 95% confidence interval is used for this determination. When oral reading time minus silent reading time produces an interval greater than zero, the passage took longer to read orally with statistical significance. This is true for passages 1, 3, 4, 6, and 7. Passages 2, 5, and 8 have a confidence interval that includes negative values. Thus, these passages could statistically take longer to read silently then orally making them outliers. Factors influencing this could be familiarity with the vocabulary or
Figure 2: Oneway Analysis of Questions

Oneway Analysis of Number of Comprehension Questions Correct (silent) By Order (1: oral, silent. 2: silent, oral)

<table>
<thead>
<tr>
<th>Level</th>
<th>Number</th>
<th>Mean</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>96</td>
<td>3.53125</td>
<td>3.2961</td>
<td>3.7664</td>
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<tr>
<td>2</td>
<td>96</td>
<td>3.36458</td>
<td>3.1081</td>
<td>3.6211</td>
</tr>
</tbody>
</table>

Oneway Analysis of Number of Comprehension Questions Correct (oral) By Order (1: oral, silent. 2: silent, oral)

<table>
<thead>
<tr>
<th>Level</th>
<th>Number</th>
<th>Mean</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>96</td>
<td>4.02083</td>
<td>3.7970</td>
<td>4.2447</td>
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<tr>
<td>2</td>
<td>96</td>
<td>3.93750</td>
<td>3.7218</td>
<td>4.1532</td>
</tr>
</tbody>
</table>

Figure 2: Oneway Analysis of Questions
Table 2: Matched Pairs of Oral Reading Time – Silent Reading Time

| Passage | N  | Mean Time Difference (s) | Standard Error | 95% Confidence Interval (s) | t-test (t < |x|) |
|---------|----|--------------------------|----------------|-----------------------------|----------------|
| 1       | 24 | 14.9                     | 2.6            | [9.6, 20.2]                 | <0.01          |
| 2       | 24 | 1.9                      | 1.9            | [-2.7, 6.5]*                | 0.4            |
| 3       | 14 | 18.7                     | 7.7            | [2.2, 35.3]                | 0.03           |
| 4       | 14 | 17.4                     | 5              | [6.7, 28.2]                 | <0.01          |
| 5       | 22 | 1.4                      | 4.8            | [-11.3, 8.5]*               | 0.77           |
| 6       | 22 | 13.7                     | 3.6            | [6.3, 21.1]                 | <0.01          |
| 7       | 24 | 21.2                     | 3.4            | [14.1, 28.3]               | <0.01          |
| 8       | 24 | 4.3                      | 3.2            | [-2.4, 10.9]*               | 0.2            |
| Average | 168| 7.7                      | 1.6            | [4.6, 10.9]                 | <0.01          |

* A negative sign in the confidence interval indicates that the silent reading time could be longer than the oral reading time.
assigned topic. Taking all the passages together, the average difference between reading orally and reading silently is 7.7 seconds with a 95% confidence interval of [4.6, 10.9].

Thus, passages 2, 5, and 8 do not provide certainty that reading orally takes longer than reading silently. Thus, the answer to question one is that reading orally takes longer, and in this experiment, passages 2, 5, and 8 were outliers.

Delving into Comprehension

In order to answer the subsequent questions pertaining to comprehension with rigorous statistics, it is important to analyze the passages further for outliers in overall comprehension and even more deeply, the five questions that make up the subject.

For the broad look at comprehension, the matched pair t-test is utilized once again. The table below shows the average oral and silent comprehension for all the samples (with a confidence interval), and then describes the outlier/s.

Table 3: Average Oral and Silent Comprehension for all Passages

<table>
<thead>
<tr>
<th></th>
<th>Oral Comprehension (out of 5 points)</th>
<th>Silent Comprehension (out of 5 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average of all</td>
<td>4.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Passages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95% Confidence Interval</td>
<td>[3.8,4.1]</td>
<td>[3.3,3.6]</td>
</tr>
<tr>
<td>Outlying Passages</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Average in Outlying Passage</td>
<td>3.36</td>
<td>N/A</td>
</tr>
</tbody>
</table>
For silent reading, none of the matched pair t-tests showed a \( t < 0.05 \), indicating the differences in comprehension between the different passages when reading silently are statistically insignificant. However, a matched pair analysis on comprehension for oral reading showed that passage 5 had statistically significant differences in comprehension when compared to passage 7 (\( t < 0.05 \)) and passage 8 (\( t < 0.03 \)).

Since the comprehension score is made up of five parts, we can also examine how different passages compared for these different types of questions. The Table 4 describes the different oral and silent comprehension questions, and by running a matched pair t-test shows which passages are outliers.

Table 4: Results for Individual Comprehension Questions for Both Oral and Silent Reading

<table>
<thead>
<tr>
<th>SILENT READING COMPREHENSION</th>
<th>Main Idea</th>
<th>Supporting Detail</th>
<th>Recall</th>
<th>Vocabulary</th>
<th>Cause and Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of students showing understanding (%)</td>
<td>79</td>
<td>72</td>
<td>67</td>
<td>53</td>
<td>73</td>
</tr>
<tr>
<td>95% Confidence Interval for % with understanding</td>
<td>[73, 84]</td>
<td>[65, 78]</td>
<td>[60, 73]</td>
<td>[46, 60]</td>
<td>[66, 79]</td>
</tr>
<tr>
<td>Outlying Passages</td>
<td>6 and 7</td>
<td>7</td>
<td>1</td>
<td>8</td>
<td>N/A</td>
</tr>
<tr>
<td>% of students showing understanding for outlying passage (%)</td>
<td>64 and 92</td>
<td>87</td>
<td>92</td>
<td>33</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ORAL READING COMPREHENSION</th>
<th>Main Idea</th>
<th>Supporting Detail</th>
<th>Recall</th>
<th>Vocabulary</th>
<th>Cause and Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of students showing understanding (%)</td>
<td>84</td>
<td>83</td>
<td>78</td>
<td>67</td>
<td>85</td>
</tr>
<tr>
<td>95% Confidence Interval for % with understanding</td>
<td>[79, 89]</td>
<td>[77, 87]</td>
<td>[72, 83]</td>
<td>[60, 73]</td>
<td>[79, 89]</td>
</tr>
<tr>
<td>Outlying Passages</td>
<td>4 and 6</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>% of students showing understanding for outlying passage (%)</td>
<td>82 and 96</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
For silent reading comprehension, the analysis shows that the percent of students answering the main idea question correctly was 79% with a confidence interval of 73%-84%. The matched pair t-test showed passages 6 and 7 are outliers for the main idea question. Passage 6 had a lower than average correct response rate of 64%, while passage 7 had a higher than average correct response rate of 92%. The cause and effect comprehension question had an average correct response rate of 73%, with a confidence interval of 66%-79%. The supporting detail comprehension question had a correct response rate of 72%, with a confidence interval of 65%-78%. A matched pair t-test showed no outliers for the cause and effect question, but the supporting detail question showed passage 7 was an outlier with a correct response rate of 87%.

Passage 7 is repeatedly an outlier with high comprehension scores. The passage is about the sport of jump roping. This is a familiar subject to the students since jump roping is an activity done in the school’s physical education class. The length of the passage is the same as the other and it offers challenging vocabulary such as interested, faithful, important, practice, competitions, and persistently. As shown in some of the previously cited literature, the reader’s personal connection to a topic offers stronger comprehension.

Passage 1 was an outlier for silent recall – with an average understanding level of 92%. This could be due to the students current studies of alligators and the bayou in their science and social studies classes. The prior knowledge and familiarity with the subject provided students a base to build on.

When looking at the comprehension for oral reading, the cause and effect question had 85% students showing understanding with a confidence interval of 79% to 89% - tied with the main idea query. The main idea question also had the only outliers for oral comprehension.
passages 4 and 6. They were deemed to be outliers due to their high average correct response rate of 82% and 96% respectively.

Passage 4 secured a high comprehension of the main idea due to repetition. The main character's name was repeated four times in the 100 word passage. This repetition improved the understanding of the main idea.

Passage 6 was a narrative about a girl pitching her first softball game and how it was difficult. The main idea of the passage was not to give up, a theme that was circulating throughout the school with standardized testing approaching in a month. Many of the students related to the pitcher’s plight and the coach’s encouraging words to keep trying, as this was the same theme faculty were relaying to the students about the upcoming testing week. When passage 6 is read orally it is easier for the student to read and comprehend since it contains dialogue. Hearing the dialogue helps the student understand the conversational tone. When the passage is read silently, it is perhaps more difficult for the student to comprehend the conversation. This could explain why silent understanding of the main idea was low and oral understanding was high.

For both oral reading and silent reading, vocabulary was the lowest percent correct. Silent reading resulted in the lowest percent correct of any of the comprehension questions for both oral and silent reading, 53% with a confidence interval of 46% to 60%. The oral reading vocabulary percent correct was higher at 67% and a confidence interval of 60% to 73%, but still the lowest percent correct for this mode of reading. Passage 8 was an outlier with only a 33% rate of correct responses. Passage 8 dealt with vocabulary in reference to ballet. Examples of difficult words included, ballet, ballerina, continued and require were words that were most often
mispronounced during the oral readings. The vocabulary comprehension question asked the students what the word continued meant. It was used in the story in the context of “Darci continued to take ballet lessons.” The story contained other context clues to the meaning of the word such as when it referenced that the dancer took ballet lessons staring at age six and stated she was still taking lessons at eleven.

Question 2: Reading Speed and Comprehension

With this better understanding of comprehension, we can answer question 2. A bivariate fit is plotted of reading speed vs. comprehension. Since 2, 5, and 8 are statistical outliers (for oral time minus silent time), they have to be removed from the dataset. Additionally, the passages that are outliers for their reading time compared to other passages also have to be removed for their respective passage. That leaves the comprehension. We removed passage 5 for the oral comprehension test. The resultant graph is shown below.

![Bivariate Fit of Number of Comprehension Questions Correct (silent) By Silent Time (w/o passages 2,3,4,5,8.)](image1)

![Bivariate Fit of Number of Comprehension Questions Correct (oral) By Oral Time (w/o passages 2,3,5,6,8.)](image2)

Figure 3: Speed versus Comprehension Silent

Figure 4: Speed versus Comprehension Oral

\[ \text{RSquare} = 0.001 \]

\[ \text{RSquare} = 0.004 \]
The two graphs above show the line of best fit with the R-squared value shown. The R-squared value is a measure of how well a regression line fits data points. Statisticians have different methods to determine whether the R-squared is significant or not. However, as a general principle, the smaller the value, the less of a correlation exists between the data and the line. Since the oral and silent R-squared values are approximately equal to 0, it indicates no correlation. Thus, the lines of best fit are not statistically significant, and are not indicative of any relationship between reading time and comprehension. Therefore, both the oral and silent reading time have no statistical significance on the comprehension.

Question 3: Oral Mistakes, Corrections and Comprehension

cannot make that conclusion based on the R-square value of 0.03. In this question we ask, how oral mistakes and corrections affect comprehension. A Bivariate Fit was once again be used for the analysis, and outlying passages have to be removed from the study. As discussed above, passage 5 results in statistically significant differences in oral comprehensions, and therefore has to be removed from this test. For oral mistakes, a matched pair t-test reveals that passage 3 results in a statistically significant differences in oral mistakes and must therefore also be removed before running the test (see Figure 4.1). Whereas for corrections, passage 7 shows a significant difference in self-corrections (see Figure 4.2). The subsequent graphs show the Bivariate Fits of the number of oral errors by the oral comprehension score and the number of self corrects and the oral comprehension score.

Though the best fit line seems to indicate that making more oral errors results in worse comprehension, one cannot make that conclusion based on the R-square value of 0.02. Similarly,
while the best fit line seems to indicate more self-correction results in better comprehension, one cannot make that conclusion based on the R-square value of 0.03.

Figure 5: Number of Oral Mistakes and Comprehension

Figure 6: Number of Self Corrects and Comprehension

Question 4: Oral Mistakes as a Predictor for Silent Comprehension

To answer question 4, a Bivariate Fit plotting oral mistakes vs. silent comprehension was again employed. However, passage 3 has a statistically significant difference in oral mistakes from other passages and is therefore removed before the analysis begins. None of the passages have a statistically significant effect on silent comprehension. Below is the resulting graph.

Though the best fit line seems to indicate more oral mistakes results in a worse silent comprehension, one cannot make that conclusion based on the R-Square value of 0.06. Thus, one cannot make any conclusions based on the data.
Figure 7: Number of Oral Errors in Relation to Silent Reading Comprehension

Student Responses to the Questionnaire

Eight students were randomly selected from the forty-eight students who participated in the study to respond to the fluency questionnaire. Students selected were four girls and four boys. Of the eight students, five indicated that they prefer to read silently to themselves. Two of the three who indicated their preference to be oral, added they only enjoy reading aloud if someone else is listening to them, preferably an adult. The request for adult attention is easily executed since all students at the school have an adult Reading Friend that comes once a week for thirty minutes to work one-on-one with them. The adult giving the student all of their attention may be perceived as a reward, therefore, encouraging the student to read to receive the reward.
The four of the five students who prefer to read silently and all three of the students who prefer to read aloud indicated from self-assessment that they read fast when they read aloud. Only one student, who prefers to read silently, indicated he was a slow oral reader. Unanimously all students felt they read faster when they read silently. One student’s comment provided possible clarity as to why: “When I read in my head, I don’t have to worry about it making mistakes, I just have to get it done.” Another added to their answer, “When you are the only one listening to it, you know no one is going to tell you when it is wrong.” This student was referring to pronunciation when asked to clarify. Comprehension should not be impacted by a few mistakes, and depending upon what mistakes are made, fluency will not be affected (Kubina et al., 2008). The fourth grade students seem to be more conscious of what others think of their reading than of what they are reading. It can be understood by the students’ self-assessment that they are aware of the mistakes they are making, and to be aware of a mistake being made means there is also self-correction being used. As seen in the study, self correction hints at aiding comprehension.

All of the students answered “yes” when questioned if their teacher reads aloud to the class. This means that prosody and good fluency practices are being modeled for the students to be able to imitate in their own reading. It is important to remember that the teacher may be the only one who reads aloud to the students. Parents may feel that a fourth grader is too old to be read aloud to, but there are proven benefits (Sanacore & Palumbo, 2009).

All students responded “yes” they have a time assigned to read silently at school daily, although six of the students interviewed added their teacher mandated they read an Accelerated Reader (AR) book. This does not follow Sustained Silent Reading practices where the students are allowed to read anything they would like and that there will be no assessment. Accelerator
Reader is a type of assessment. The student’s attitudes when they mentioned the AR book was disapproving. This could be for a variety of reasons from being weary of participating in AR for several consecutive years, an unsuccessful experience with AR, or lack of interest in book topics offered by the school library.

When asked if they remember a story better if it is read aloud or silently, four students stated they remembered a story better if they read it silently, two stated reading aloud assisted their comprehension, while the last two students had unique answers. One declared, “I don’t know which way I remember best, I remember everything,” exuding confidence in his reading ability. Conversely, the second student did not express the same confidence by stating, “I can’t remember anything too good, I have to look back a lot any which way I read.” It would make sense that a student in second half of fourth grade would feel more comfortable reading silently since the transition to reading expository text silently is used more predominantly than reading orally to gain knowledge.

Seven out of the eight students preferred reading a book rather than reading on the computer. This could be due to the low socio-economic make up of the school. Access to home computers may be limited; therefore, using the computer for reading may feel uncomfortable since there is less practice than reading printed materials. Books at this school are accessible in the classroom, the school library, a Reading Friends’ library and books that each student’s Reading Friends brings to the weekly visit. The books the Reading Friend brings is usually tailored to the student’s interest and reading level. This provides the setting for success for the students, a high-interest book on an appropriate reading level. It would reasonable to understand if the student is more familiar with books and experiences a great deal of success reading books; it is understandable that books would be the preferred medium for reading. This is an important
question since many schools are piloting programs where the text books will be downloaded onto electronic devices.

When asked if pictures slow down their reading speed, all of the students agreed it did. Responses varied from the obvious, “The book people put the picture there to help us, so you look at it and it tells you what is going on.” Pictures are known to assist with comprehension. One student informed me, “My teacher said you should look at the pictures in the story or in the chapter before you begin reading so you can know what you will read about.” It is apparent this student was taught effective prereading strategies. Another thought about the pictures was, “If you are reading something and you know what the picture is about, then you know you are reading right.” This student was referring to self-assessment and the ability to check his comprehension as he was reading. Although the pictures are distracting, it is seems that teachers have taught the students the several ways to utilize them. Pictures could be thought of as an assisting distraction.

When asked what topics the subjects enjoyed reading about, there was a distinct gender difference. The girls surveyed enjoyed reading books about people, especially princesses, Disney personalities like Hannah Montana and the cast of Zac and Cody, and animals. One girl added, “I love animal stories, but not the sad kind.” The popularity of the Disney books are attributed to the popularity of the television shows. “I watch Zac and Cody all the time. I like to read about them so I know more about them. The books tell you stuff that isn’t on the show, but I like the show more than reading,” one girl offered.

The boys indicated their preference for stories about fantasy or sports. The Star Wars series, the Transformer series and wrestling, basketball and football biographies are the named
favorites of the boys. All four of the boys listed the New Orleans Saints football player Reggie Bush as a favorite topic to read about. “I like the books about Star Wars so I can look at the pictures a long time,” one boy remarked. He offered to show me the book from his backpack. The book had text, but the illustrations of the fantasy spaceships were the focus of the page. Parts of the spaceship were labeled with words from the fantasy location along with familiar words such as button, trigger, and belt; it is a mixture of familiarity and unknown. It was exciting to watch the fourth grader sound out the parts of the ship using his phonics skills. A common theme of both genders is some of the topics they enjoy reading about are from television. Television is most likely the predominant entertainment choice at home. Perhaps the exposure from television influences the favorite choice of reading materials of the students. Familiarity with the characters and setting allow for easier reading for the students, helping make these types of books more popular.

Of the eight students, only one said they enjoy reading at home. Most of the students who do not like to read at home indicated that they were busy with other entertainment such as television, video games, and movies. Other reasons included evening participation in community organized athletics, chores to be completed, and babysitting younger siblings. One of the students who indicated they did not read at home said she was too busy to read at home since she was completing homework. She quickly added that homework is not really reading. If the students are completing homework, then they are reading, even though they are not classifying it as reading. The one participant who did read at home indicated that it was a time she could be alone and her mother did not make her do chores since she was reading and her mother thought reading was more important. Additionally, she told her mother her goal was to have the most AR points in the school.
Teacher Responses to Questionnaire

All four of the fourth grade teachers at the school used in the studied answered the questionnaire given to them. They were all answered anonymously so the responses would be more forthcoming and beneficial about fluency instruction for the fourth grade classes at the school.

Three of the four teachers indicated that fluency instruction is integral to learning while one teacher indicated that comprehension is the most important aspect of reading for learning. One of the teachers who indicated that fluency was necessary pointed out that fluency builds comprehension. The teacher who indicated comprehension as the most integral component in learning also indicated that fluency was not important at all to the learning process. These are two contradictory views of the same subject.

When asked if fluency and comprehension were related all four teachers agreed that there was a connection between the two reading skills. The teacher who noted that fluency was not important, but comprehension was, responded, “According to how fluent a student reads could determine if they actually retain the information. When students cannot chunk their words, they are confused and cannot make meaning out of what is being read.” This seems to contradict her first statement about the two reading skills. Another teacher’s response was, “All comprehension skills link into fluency-sequencing, predicting, etc. Without fluency, there is no comprehension.” The other two responses were similar while indicating that students who struggle with fluency, also struggle with comprehension.

Teachers indicated instructional strategies used for fluency instruction included the following: DIBELS, group read-alouds, peer read-alouds, choral reading, echo reading, listening
to self read while using self-assessment, small group instruction, practicing challenging words, practicing troubling phonics, and reading silently. It seems that all teachers indicated that fluency cannot be taught as a whole class skill at this grade, but needs to be more individualized. The teachers pointed out that the small groups were assigned, as needed, per reading skill. The students interviewed all answered that the teachers read aloud to them in class, but the teachers did not list this as a fluency instructional strategy. Teacher modeling is an effective fluency instructional strategy. Students need to hear what fluency should sound like to imitate it and use it as a self-monitoring measuring point. It should also be noted that DIBELS is an assessment, not an instructional technique. Although it could be used to as a deciding factor as to what instructional strategy would benefit the child the most.

When asked to identify what instruments or methods are used for student fluency, DIBELS was the first answer for all four teachers. Three other teachers also identified “progress monitoring” as an approach to monitoring fluency. Progress monitoring described in the response to the questionnaire refers to when a student reads and the teacher records how many words are correctly read in a predetermined time period. Students are allowed to reread the same passage to see if there is an improvement in amount of words read and the amount of reading mistakes made in the allotted time period. Progress monitoring is a part of DIBELS; the frequency at which progress monitoring is given is dependent upon the student’s DIBELS score. There are three levels where a student’s reading ability may be categorized as; low risk, some risk and high risk. The students classified as low risk only receive progress monitoring three times a year, the students classified as some risk receive progress monitoring monthly, and the high risk students receive progress monitoring every two weeks. One teacher expressed that it is
difficult to keep up with the individual progress monitoring, but it is worth it since she has seen fluency improvements with the individualized instruction.

The answers to how often fluency was assessed varied, except in regards to DIBLES. DIBLES is assessed three times a year, at the beginning of the school year, after Winter Holiday, and at the end of the school year. The frequency of how often other assessments of fluency were administered varied by the students’ initial DIBELS performance. One teacher indicated she assessed fluency weekly, two of the four teachers indicated fluency was assessed every two to three weeks depending upon the level of the student’s fluency and the fourth teacher indicated that fluency was assessed as needed, this answer was vague. It did not indicate if the assessment was needed by the student or by the administration. All indications of fluency assessment were formal assessments, not informal assessments or observations by the teacher.

The percentage of oral to silent reading for instruction also varied from teacher to teacher. All four teachers had different responses. One teacher stated, “I use mostly oral reading in my class”, and estimated the percentage of oral to silent to be 70% to 30%, respectively. A second teacher indicated that the division of oral reading and silent reading for instruction was equal, 50% for each mode of reading. Another teacher indicated that her classroom’s oral reading percentage was 45% and the silent reading percentage was 65%. Lastly, the fourth teacher estimated her percentage to be 40% to be oral reading instruction and 60% silent reading instruction. The gap of how much oral reading instruction the students have is 30%, this is a rather large disparity in the classes. Thirty percent is almost one-third of instructional time. This is where the teacher’s discretion is needed most. This cannot be imposed into a percentage nor mathematic equations. The teacher is in the classroom on a daily basis with the students and is
capable of making the decisions needed to make the students successful. When addressing this difference, another factor to consider is how oral reading instruction is being utilized. Beneficial modes of oral reading could be shared book experience, choral reading, mentor reading, readers theater or paired reading (Opitz & Rasinski, 1998). The other perspective is that if there is only round robin reading occurring for oral reading, then the class is not benefitting from oral reading instruction.

When the teachers were asked what classes utilized silent fluency the most, social studies was a unanimous answer. Three of the four teachers indicated that English Language Arts largely used silent fluency. One teacher responded that math often used silent fluency in regards to word problems. Interestingly, one teacher brought up that all subjects needed to use silently fluency in preparation for the high stakes test in April. As she mentioned the test the student take uses only silent reading, and if the students have not practiced how to read silently for all the subjects, then they will not do well on the test.

The teachers indicated that there are strategies in place to assist the students with silent comprehension. Think-alouds and predicting are initiated before the students read independently. The responses indicated this was done in a variety of formats, as a whole class activity, in small groups, with partners or individually. While students are reading pacing or guided notes are used to assist the student’s comprehension. If students have completed the reading assignment, re-reading is used as a post-reading activity before comprehension questions or other comprehension assessments are initiated.

When asked which mode of reading, silent or oral, the students exhibit more comprehension; three of the four teachers agreed that when the students read silently, the
students exhibit more comprehension. This conformed to the opinions expressed by the students. Perhaps the students who are in the classrooms that predominantly use silent reading feel more comfortable with this mode of reading and have made the transition to reading to learn, not learning to read. Also the students expressed their concentrate less focused upon what is being pronounced and how it is being read, allowing comprehension to be in the forefront.

All teachers agreed that the slower readers in class have less comprehension than the faster readers. This is most likely due to the more frequent need to decode slowing down the student’s reading. Decoding takes away from comprehension whether it is oral reading or silent reading. One teacher’s response indicated that during silent reading the slower readers sometimes become frustrated when their counterparts are finishing ahead of them, and sometimes the slower readers will simply stop and not finish reading and move on to comprehension activities. This is not beneficial to the student. First, the student is missing out on vital reading practice and secondly, they have not completed reading the assignment so they do not have the information or comprehension needed to complete the assessment activity.

Principal and Reading Coach Responses to Questionnaire

Both the Reading Coach and the Principal feel fluency instruction is integral to learning in all subject areas and at all grade levels. Both also believe that fluency and comprehension are related. The principal stated, “If you read too slow you forget what you have read, if you read too fast you still might not comprehend correctly.” The Reading Coach replied, “Comprehension is the goal of reading and fluency is one of the final steps to achieving comprehension, so it is important to have fluency to have comprehension.”
The school was a participant in the federal government program Reading First, but now is receiving funds from the state program ELFA. Both the Reading Coach and the Principal describe this as an effective curriculum for fluency. The Reading Coach said, “Many of the students begin their academic career with very little literacy, but the students who remain at our school, and do not move away, benefit from the program and most are no longer “at risk” by fourth grade thanks to the program. The problem is this school services a poor community where moving frequently and relocating to different schools is not uncommon.”

The transition from oral to silent reading is described as “nurtured” by the Reading Coach. In further detail she described that students begin using picture books, some with and some without words, to look at silently. Many of the books are familiar to the students since they are used in class or feature popular children’s literary characters. Even if the student is only looking at the pictures; it establishes the setting for silent reading. The Principal was in agreement with this process by responding, “Silent reading is encouraged when the students are ready. It is usually at the end of first grade. But the teachers are the preparing them the entire school year to move to silent reading, we allow our students to engage independently with literature at an early age and this helps them become prepared to be a silent reader.”

When asked how fluency should be assessed, the Reading Coach indicated that DIBELS was an excellent formal assessment that the school currently administers three times a year. Also teachers need to give daily informal assessments when students are reading orally in class by pointing out mispronunciations, omissions and substitutions. She also indicated that some teachers do not like to point out all mistakes, because this may make a child dislike reading, so teachers have to use their best judgment on when to correct a child. The Principal thinks fluency should be assessed by allowing them to read for a minute and then tell about what they read.
Additionally, you then count the words per minute. This is a close description of the formal assessment of DIBELS.

Both of the respondents agreed that fluency was one of the factors that decided if a student was to be placed in a reading intervention class. Reading intervention classes provide students with small group lessons that are directed to increase the student’s specific skill and bring their reading ability to or above grade level. Both agree that the intervention classes are beneficial to the student in regards to fluency. This is because the student is provided more time to read orally and be given corrections. Besides reading intervention pull-out program, the student’s fluency skill level also assists with classroom grouping or partnering.

When asked at what grade was fluency instruction most imperative, the Principal chose second grade and the Reading Coach selected first grade. It is interesting that both chose a grade where they each indicated the school encourages the move to silent reading. Both agreed that when a student is reading slowly that fluency interventions should be delivered immediately. The Reading Coach added that individual teachers can garner who needs intervention strategies by day to day observation. The sooner fluency can be corrected, the sooner a resolution may be put in place.

The federal program, Reading First/ELFA is the model followed for reading fluency instruction at this school. Many of the answers given by both the Reading Coach and the Principal follow the Reading First/ELFA guidelines. The state funds received by the school are used within accordance to the grant application’s restrictions. This is not a considered a restriction by the Principal since the programs have been beneficial for the students and given the teachers instruction on how to address closing the at risk reading gap.
CHAPTER 5: CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

Research Question 1 Findings

Previous studies have proven that oral reading time takes longer than silent reading time. This study also found evidence that this is true. The outlying passages 2, 5, and 8 were removed due to t-tests showing a statistically significant variation in reading time from the other passages. The confidence interval for reading speed for oral 100 word passages was [60.1, 64.3] seconds and [50.9, 55.0] seconds for the silent reading time. This is a difference of [5.1, 13.4] seconds, or as much as one-fifth of the silent time, accounting for a significant percentage.

Research Question 2 Findings

This study did not find a statically significant correlation between reading speed and comprehension. There is not a mean time that will automatically produce readers with flawless comprehension. Although fluency is defined as speed and accuracy, there is not a formula that could use time as a variable that is capable of predicting a comprehension score discovered form this study. Reading times in relation to comprehension are dependent upon the individual. Some of the reading times were the same, but the comprehension scores were different. Also some of the reading times were slower or faster than the mean time, and the comprehension scores were varied from a perfect 5 to a low 1 or 0.

Research Question 3 Findings

Mistakes made while reading orally are a definite variable that can be measured. Conversely, silent reading mistakes cannot be measured. It was anticipated that the more self-corrections a student made in regards to the oral mistakes, the higher the comprehension score.
would become. This is implausible since there is not a strong enough correlation to prove a relationship. It would be useful to have a later study where the types of oral mistakes in relation to self-corrections would be studied. Some oral reading mistakes may not affect comprehension like an omission or repetition, whereas other mistakes such as mispronunciation or substitutions may hinder comprehension more.

Research Question 4 Findings

The number of mistakes made while reading orally is a poor predictor for the amount of comprehension errors made while reading silently. The two different modes of reading are unconnected when measured by comprehension. This does not mean that one does not influence the other, but a different measurement method needs to be developed. Another reason for the unrelated statistics could simply be the inexperience of silent reading. Perhaps a higher grade level will be able to show more of a fluency relation because there is more practice using silent fluency.

Prosody and Comprehension

Because the goal of the experiment is to determine what observable factors cause certain children to have better fluency, thus comprehension, then others, numerous observable actions were initially assumed to be independent variables. Things documented included: the order of reading the passages, which of the eight passages were chosen, the reading time, whether the finger was used to guide reading, the number of mistakes made while reading orally, the number of self-corrections orally, whether the student read with prosody, and whether they mouthed the words while reading silently.
After running a statistical analysis, it was prosody, of all of the possible observable factors, which affected both silent and oral comprehension. Prosody was not measured on a continuous scale. Students were either marked a 1 – for having prosody, or a 0 – not having prosody. Performing a Oneway analysis in JMP shows that being able to read with prosody is a statistically significant help to both oral and silent comprehension. See Figures 8 and 9.

![Figure 8: Prosody’s Impact on Oral Reading](image1)

![Figure 9: Prosody’s Impact on Silent Reading and Comprehension](image2)

**Table 5: Average Comprehension Rate With and Without Prosody**

<table>
<thead>
<tr>
<th></th>
<th>With Prosody</th>
<th>Without Prosody</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average Oral Comprehension</strong></td>
<td>4.2</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Confidence Interval</strong></td>
<td>[4.0,4.4]</td>
<td>[3.3,3.8]</td>
</tr>
<tr>
<td><strong>Prob &gt; t</strong></td>
<td>0.0008</td>
<td>0.9992</td>
</tr>
</tbody>
</table>

| **Average Silent Comprehension** | 3.8          | 2.8             |
| **Confidence Interval**   | [3.6,4.0]    | [2.5,3.1]       |
| **Prob > t**              | <0.0001      | 1.0000          |
Another very interesting result of prosody is that it creates a statistically significant difference in oral reading time. Students with prosody read orally faster (outliers discovered in previous chapters withheld from graph). See Figure 7.

![Figure 10: Prosody’s Impact on Oral Reading Time](image)

Table 6: Average Reading Time With and Without Prosody

<table>
<thead>
<tr>
<th></th>
<th>With Prosody</th>
<th>Without Prosody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Oral Time (seconds)</td>
<td>57.9</td>
<td>73.0</td>
</tr>
<tr>
<td>Confidence Interval</td>
<td>[54.6,61.2]</td>
<td>[68.7,77.2]</td>
</tr>
<tr>
<td>Prob &gt; t</td>
<td>1.0000</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Table 6

A future direction of study would be to test students separately for their prosody and to rank them on a continuous scale. This would allow for a bivariate fit of prosody and comprehension that would perhaps yield a comprehensive regression formula relating the two variables.
Since prosody is a fluency skill that involves the rhythm, stress, and intonation when reading text orally a further study might benefit from looking at what strategies are most effective in helping a student acquire prosody. This study could cover multiple grade levels since prosody is a skill that develops from hearing it modeled and through being practiced.

This study had many scores where the criterion reference percentage overlapped. To get a clearer perspective on the data, it would be beneficial to recreate this study using a larger sample with longer passages and more comprehension questions. It would allow for greater statistical confidence and clearer, more concrete results to emerge. This will facilitate more data and less overlap of the criterion reference percentages.

In recreating this study students should be separated by their ability to read with prosody or without prosody. It was clear in the study that students who read with prosody score higher in regards to all five types of comprehension questions. It would be provide valuable information about those students who do not read with prosody. Since fluency is a link to comprehension, it would allow the research to observe if there were particular comprehension questions that are paired with students who read with little fluency, and if there are questions that pair better as fluency builds.

Implications for Further Research

Other areas of study could include classroom observations specifically directed at what fluency practices the students engage and how often these practices are utilized. It was apparent from the questionnaire answered by the four fourth grade teachers at the school studied, that different amounts of oral and silent reading used in instruction differed greatly. Tracking the
students’ classes and their performance may unlock what balance is needed between oral reading and silent reading.

Additional insight about fluency, especially silent fluency, could be gained from further research linking fluency and comprehension. Comprehension is a possible assessment of silent fluency. Using retelling as a comprehension assessment to determine silent fluency could be an effective means of collecting data. Retelling would allow the student to reveal any mispronounced words while reading silently; this would indicate a decoding deficiency. This deficiency would come out naturally when the participant would be relating the information that was silently read. Also if the participant excluded important details, the researcher would realize that the participant’s comprehension was inadequate.

Also it would be significant to spend time in the classrooms of the participants in the study. Keeping an accurate record of minutes used in oral reading instruction and silent reading instruction would be helpful in ascertaining how the modes of reading influence and affect the student’s fluency. The minutes could be converted into a percentage for each day. This data then could be used in tandem with fluency in relationship to oral reading fluency and silent reading fluency. If a student’s data illustrates they demonstrate better comprehension when reading silently, it would be advantageous to examine what percentage of classroom instruction is performed utilizing orally reading and what percentage of classroom instruction is performed utilizing silent reading. This could be used as a year-long study where a timeline could be developed of what percentage of oral reading instruction versus silent reading instruction should be utilized to produce fluent silent readers who have good comprehension. It would create a schedule of how to possibly effectively transition students from oral reading to silent reading.
while meeting fluency benchmarks keeping comprehension. In addition the percentages could be broken down by subject areas and the research could then help identify subject areas that benefit more from oral reading or silent reading.

Summary

Oral fluency is a predictor of silent fluency in that if a student displays prosody when they read aloud, their comprehension is greater than the student who does not read with prosody. Therefore, students who read orally with prosody tend to also have better silent comprehension. Since students with prosody are more fluent readers with the inflections and intonations, it could be concluded that students who are the most fluent oral readers, will carry that skill to silent reading also.

When oral mistakes are made and followed by a self correction, several corrections must be made to have an impact on raising the comprehension score. It would seem that each correction would garner a better comprehension score, but the type of oral reading mistake is more of a predictor of what impact it will have on comprehension. It is important not to discourage self correction since this is a type of self-monitoring.

Although the speed of reading cannot predict the level of fluency or comprehension, it is important for teachers to continue modeling and teaching the reading skill of fluency. Fluency allows the reader to focus not on decoding, but allows the focus to be directed on the main goal of reading, comprehension.
REFERENCES


Gray, W. S. (1916). Descriptive list of standardized tests. The Elementary School Journal, 17(1), 24-34.


APPENDIX A

STUDENT PASSAGES FOR READING
As time goes by, Crocodiles grow bigger, longer, and stronger. She spends much of her life in the water. Her body is built for that kind of life. She has a thin body and webbed feet that are useful for swimming. She can also use her strong tail as a paddle.

Like all reptiles, the crocodile is cold-blooded. That means her temperature is not always the same. A cold-blooded animal’s temperature changes with the temperature of the air or water around it. If a reptile is in a cold place, its temperature goes down. If it goes to a warmer place, the temperature goes up.
Passage 2

Turtles hatch from eggs. When the female turtle is ready to lay her eggs, she digs a hole to put them in. The eggs are white and quite small. After covering the eggs, the female turtle leaves. When the young turtles hatch, they must dig their way out of the nest up to the surface. They are on their own.

Many young turtles do not survive. They are the favorite prey of many birds, lizards, and other animals. The turtles that do survive and become adults often live very long lives. Some turtles live for more than a hundred years!
I loved butterflies and I love photography. I came up with a plan to “grow” butterflies in my backyard. That way I could photograph them.

How do you grow butterflies? First, you have to plant a garden. It can’t be just any kind of garden. I found out what kinds of flowers butterflies liked. Some of them liked daisies. Some of them liked day lilies. Some of them liked flowers I didn’t know the names of. One plant called a “butterfly bush” even attracts butterflies. The more plants in your garden that a butterfly likes, the more butterflies will come visit!
Tanny’s violin was beautiful. It smelled old and mysterious. I asked Tanny about the white dust that I noticed on the wood between the fingerboard and bridge.

“That’s rosin,” she explained. “You put rosin on the horsehair of the bow to help it move smoothly across the strings.”

Then she offered to let me try her violin. Well, all the rosin in the world wasn’t going to help my playing. When Tanny played, the violin made sweet sounds. But all it would play for me was “screech, screech!”

“It’s difficult in the beginning and takes practice to learn to play notes,” Tanny said.
The day of the first game arrived. Coach Stein said, “You are pitching today.”


The first inning, Donna was as good as her word. In no time at all. She had struck out three batters in a row.

The second inning didn’t go as well. First one batter, then another had a hit. Soon the bases were loaded.

The next batter hit a homerun. The other team was winning 4-0.

After that, Donna struck out the next three batters. Her shoulders slumped as she walked back to the bench in the dugout.
Harry couldn’t believe it. His new neighbor has a telescope. His new neighbor liked outer space. They were going to look at comets.

That night Harry went to Walnut Hill with his new neighbors. Harry and Sera and her parents weren’t the only people there. Many people had turned out to see the comet.

“How did all these people know about the comet?” Harry asked.

“There is a special comet website” Sera told him. “I’ll give you the address later.”

Harry set up his telescope beside Sera’s. Together they pointed their telescopes toward the sky to wait for the comets.
Perhaps you have learned to jump rope or perhaps you would like to learn. If you are interested, find a flat surface to jump on. You must have enough space for the rope to turn. You must not give up. You must try persistently. It’s important to be faithful and practice often.

It is not easy, but once you can jump you’ll have so much fun. There are jump rope clubs and jump rope competitions for teams of jumpers. If you live near a playground that has lights, you and your friends will never have to stop jumping! Happy Jumping!
At the age of six, Darci began taking ballet lessons. Sometimes the lessons were lots of fun. Sometimes they were very hard. She had to stand and do the same thing again and again.

Yet, Darci loved her ballet lessons and tried to never miss a class. When she wasn’t dancing, she dreamed about ballet. Pictures of ballerinas danced in her mind. Darci often dreamed of being a ballerina. She knew that it would require hard work for her dream to come true.

Darci continued taking ballet lessons. By the time she was eleven, Darci was taking advanced dance classes.
APPENDIX B

TEACHER PASSAGES AND QUESTIONS
As time goes by, Crocodiles grow bigger, longer, and stronger. She spends much of her life in the water. Her body is built for that kind of life. She has a thin body and webbed feet that are useful for swimming. She can also use her strong tail as a paddle.

Like all reptiles, the crocodile is cold-blooded. That means her temperature is not always the same. A cold-blooded animal’s temperature changes with the temperature of the air or water around it. If a reptile is in a cold place, its temperature goes down. If it goes to a warmer place, the temperature goes up.

1. Where do crocodiles live?

2. What is a cold-blooded animal?

3. What would happen if the crocodile swam in the cold, Arctic Ocean?

4. What would be a good title for this passage?

5. Why would you name it that?
Turtles hatch from eggs. When the female turtle is ready to lay her eggs, she digs a hole to put them in. The eggs are white and quite small. After covering the eggs, the female turtle leaves. When the young turtles hatch, they must dig their way out of the nest up to the surface. They are on their own.

Many young turtles do not survive. They are the favorite prey of many birds, lizards, and other animals. The turtles that do survive and become adults often live very long lives. Some turtles live for more than a hundred years!

1. What would make a good title for this passage?

2. Why would you title it that?

3. Name a reason a young turtle may not survive?

4. How is the word “prey” used in the story?

5. Why do you think turtles bury the eggs to hatch?
I loved butterflies and I love photography. I came up with a plan to “grow” butterflies in my backyard. That way I could photograph them.

How do you grow butterflies? First, you have to plant a garden. It can’t be just any kind of garden. I found out what kinds of flowers butterflies liked. Some of them liked daisies. Some of them liked day lilies. Some of them liked flowers I didn’t know the names of. One plant called a “butterfly bush” even attracts butterflies. The more plants in your garden that a butterfly likes, the more butterflies will come visit!

1. Why is this passage titled “Butterfly Garden”?

2. Explain what the narrator meant by “grown”.

3. Why did the girl want to plant a butterfly garden?

4. What would happen if you planted a garden with flowers the butterflies did not like?

5. Name a flower butterflies like.
Tanny’s violin was beautiful. It smelled old and mysterious. I asked Tanny about the white dust that I noticed on the wood between the fingerboard and bridge.

“That’s rosin,” she explained. “You put rosin on the horsehair of the bow to help it move smoothly across the strings.”

Then she offered to let me try her violin. Well, all the rosin in the world wasn’t going to help my playing. When Tanny played, the violin made sweet sounds. But all it would play for me was “screech, screech!”

“It’s difficult in the beginning and takes practice to learn to play notes,” she said.

1. Why does the violin make music for Tanny?

2. What is rosin?

3. What would be a good title for this passage?

4. What is a reason this would be a good title?

5. Describe Tanny’s violin.
Passage 5

The day of the first game arrived. Coach Stein said, “You are pitching today.”


The first inning, Donna was as good as her word. In no time at all. She had struck out three batters in a row.

The second inning didn’t go as well. First one batter, then another had a hit. Soon the bases were loaded.

The next batter hit a homerun. The other team was winning 4-0.

After that, Donna struck out the next three batters. Her shoulders slumped as she walked back to the bench in the dugout.

1. How is slumped used in the story?

2. Why was Donna sad?

3. What is a good title for this passage?

4. Why is that a good title?

5. What happened in the first inning?
Harry couldn’t believe it. His new neighbor has a telescope. His new neighbor liked outer space. They were going to look at comets.

That night Harry went to Walnut Hill with his new neighbors. Harry and Sera and her parents weren’t the only people there. Many people had turned out to see the comet.

“How did all these people know about the comet?” Harry asked.

“There is a special comet website” Sera told him. “I’ll give you the address later.”

Harry set up his telescope beside Sera’s. Together they pointed their telescopes toward the sky to wait for the comets.

1. What is the new neighbor’s name?

2. Why were all the people at Walnut Hill?

3. What is a good title for the passage?

4. Why would you name it that?

5. What does “turned out” mean?
Passage 7

Perhaps you have learned to jump rope or perhaps you would like to learn. If you are interested, find a flat surface to jump on. You must have enough space for the rope to turn. You must not give up. You must try persistently. It’s important to be faithful and practice often.

It is not easy, but once you can jump you’ll have so much fun. There are jump rope clubs and jump rope competitions for teams of jumpers. If you live near a playground that has lights, you and your friends will never have to stop jumping! Happy Jumping!

1. What does persistently mean?

2. What would you name this passage?

3. Why would you name it that title?

4. What would happen if you quit trying to learn to jump rope?

5. How could you jump at night?
Passage 8

At the age of six, Darci began taking ballet lessons. Sometimes the lessons were lots of fun. Sometimes they were very hard. She had to stand and do the same thing again and again.

Yet, Darci loved her ballet lessons and tried to never miss a class. When she wasn’t dancing, she dreamed about ballet. Pictures of ballerinas danced in her mind. Darci often dreamed of being a ballerina. She knew that it would require hard work for her dream to come true.

Darci continued taking ballet lessons. By the time she was eleven, Darci was taking advanced dance classes.

1. What does continued mean?

2. What would be a good title for the story?

3. Why is this a good title?

4. What do you think Darci’s dream is?

5. How old was Darci when she started taking advanced lessons
APPENDIX C

REFERENCES FOR PASSAGES
References

Passage 1:

Passage 2:

Passage 3:

Passage 4:

Passage 5:

Passage 6:

Passage 7:

Passage 8:
VITA

Julie Adele Wright Rollins was born in Longview, Texas, in 1970. As many children do, she would play school not realizing this would be her career path. She taught in Baton Rouge, Louisiana, at Broadmoor Middle School for 14 years. She was a first-hand observer of the many changes the school went through; beginning as a magnet performing arts school and then after the magnet school status was removed, becoming a low-performing school. The drastic change in the school made it apparent to her that reading was foundation for all learning and in middle school, especially silent reading.

She is married David Cordell Rollins in the midst of her research. Her joined her family of friends who encouraged her to complete this study. The people who surrounded her were not educators, but all supported quality education.

She is presently working as an instructor at Louisiana State University in Baton Rouge, Louisiana. She teaches reading methods courses to future teachers and encourages her students to bring the love of reading to all.