THE RELATIONSHIP BETWEEN ORAL READING FLUENCY AND COMPREHENSION

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TABLE OF CONTENTS

ABSTRACT

Oral reading fluency and reading comprehension are identified as components in effectively gaining meaning from text. A reciprocal relationship exists between the two that allows one to comprehend more thoroughly as one reads more fluently. Additionally, as one reads more fluently, one's ability to comprehend also improves. This is due to the fact that one's brain is more capable in processing text meaning when one is able to read fluently. Therefore, when one automatically identifies words one is able to comprehend text more completely.

The oral reading fluency and comprehension relationship was tested for a second and third grade population at a private, Catholic elementary school in Elmira, New York. These students were issued the oral reading fluency subtest of the Dynamic Indicators of Basic Early Literacy Skills and the TerraNova Basic Multiple Assessment issued by McGraw-Hill Publishing Company. Overall, a reciprocal relationship existed among the students that took this assessment.

Chapter 1

Introduction

Recent federal legislation within the United States of America has had an unprecedented effect on education, specifically on reading instruction. Arising from the increased demands of the twenty-first century workplace, concern over student reading performance is at the forefront of national education. The increasing demands have raised the literacy bar for students and subsequently, schools have been forced to accommodate instruction for these increased expectations (Good, Simmons, & Kame'enui, 2001). Specific legislation such as the No Child Left Behind legislation has prioritized establishing instructional practices emphasizing the systematic and explicit teaching of reading in a manner that ensures student success.

Successful reading requires the learner to incorporate a number of reading skills in appropriate ways. The reading sub skills deemed critical for the development of proficient reading include phonemic awareness, sight word recognition, fluency in reading instructional-level text and strategy use to aid comprehension (Chafouleas, Martens, Dobson, Weinstein, & Gardner, 2004). Student inability in appropriately performing and combining any of these important reading skills can lead to difficulties throughout the entire reading process, difficulties that are rarely remedied. Instead, proficient reading, or the ability to combine all of these necessary skills in obtaining meaning from text, can not only promote academic success but also facilitate promotion within the workplace.

American educators recognize proficient reading as a complex performance interplay that requires simultaneous coordination across many tasks (Fuchs, Fuchs, Hosp,

& Jenkins, 2001). Competent readers are able to integrate the many reading skills, including phonemic awareness, word recognition and other related skills, in obtaining meaning from the text one encounters. Oral reading fluency may serve as one of the best indicators of basic reading competence. Student performances regarding oral reading fluency have been identified as possessing a powerful, direct link to reading proficiency. Developing oral reading fluency in students helps to ensure the creation of independent, self-monitoring readers (Stayter & Allington, 1991).

Every year thousands of United States students take standardized tests and state reading tests. These tests, combined with information yielded from informal reading inventories, oral reading records and other teacher-generated information, can produce a comprehensive view of student abilities regarding reading (Valencia & Buly, 2004). Students who are able to surpass the decoding barrier are able to increase fluency abilities and reader comprehension prevails. The correlational relationship between comprehension and fluency is evident in student progress regarding assessment. A fluency assessment, as part of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), provides a reliable and valid means of reporting fluency performance. This assessment highlights student progress regarding oral reading fluency and can be correlated to the comprehension abilities of a student (Langdon, 2004). The strong relationship between fluency and comprehension is accentuated by further reading practice in that as students read more, their fluency improves, positively impacting their ability to comprehend text. Consequently, as comprehension increases, a student's oral reading fluency is also improved (Fuchs et. al., 2001). Assessments reflect the relationships between these two reading components (Good et. al., 2001).

Instantaneous, fluent word recognition allows for proficient comprehension. Oral reading fluency, as measured by a curriculum-based passage reading test, is an accurate measure of general reading ability, including comprehension (Madelaine & Wheldall, 1998). Reading comprehension is accentuated by a fluent reader's ability to attune mental attention to obtaining meaning from text. This extra mental attention is made available by the lessened mental requirements of word recognition when one reads fluently. Consequently, oral reading fluency is a good performance indicator of comprehension ability as well as of general reading ability. In fact, oral reading fluency is more directly linked than word recognition to text comprehension processes (Stayter & Allington, 1991).

While a recognized relationship between oral reading fluency and comprehension exists, more research will further illuminate this relationship. The American system of education has recently focused collaborative attention on this relationship and other reading factors in hopes of improving the state of literacy throughout the country. With the goal of extinguishing illiteracy, educational practices need to be firmly based in education research supporting the best practices for instruction.

Background of the Study

Cognitive psychologists who study reading define fluent reading as the ability to recognize words rapidly and accurately (Nathan & Stanovich, 1991). Reading fluently is an important link between word analysis and comprehension, whereas "slow and disconnected oral reading . . . makes comprehension virtually impossible" (Chafouleas et. al., 2004). Fluent reading allows one to expend less mental effort in identifying words in order to apply more effort to thoroughly comprehend text. Therefore, fluent readers are

more able to obtain meaning from text. In fact, proficiency regarding fluency is one of the most powerful indicators regarding successful reading and obtaining meaning from text (Fuchs et. al., 2001).

Highly fluent readers experience smooth and continuous reading that efficiently combines the components of reading. These students exhibit prosodic reading, in which the rhythm and flow of reading is highly influential in understanding written text (Tindal & Marston, 1996). LaBerge and Samuels' (1974) automaticity model of reading is probably most frequently invoked as a framework for conceptualizing oral reading fluency as an indicator of overall reading competence. Automaticity involves the "rapid processing of information that formerly required long periods of training before the behavior could be efficiently executed with little effort or attention" (Good et. al., 2001). In connection to fluent reading, the principles of automaticity enable students to read in a fairly effortless or automatic manner (Zutell & Rasinski, 1991). The effortless word recognition, combined with the ability to group or "chunk" words into meaningful phrases and clauses, allows one to rapidly attune mental processes to obtain meaning from text.

Like the automaticity model of achieving fluent reading, the interactive processing model has been extensively studied by reading researchers. The interactive processing model hypothesizes that when students read, activations are made in their brain's neural network, facilitating rapid text recognition. These activations schematically assess the word, linking it to the semantically related memory locations in the neural network. This process is mentally obligatory or automatic, therefore requiring no attention on behalf of the reader, freeing mental processes for heightened comprehension.

The other independent neural processes utilize a conscious-attention mechanism which relies on context to formulate predictions regarding the forthcoming text. This process utilizes conscious attention in retrieving justification for the predictions regarding impending text. Similarly to the automaticity model, the interactive processing model shares the assumption that efficient low-level word recognition frees up capacity for higher level, integrative comprehension of text. Therefore, fluent processing of text enables readers to apply brain activity to comprehending text rather than laboriously applying effort to word identification (Leu, Deroff & Simons, 1986).

In addition to these theories regarding oral reading fluency, historical developments in education have significantly transformed the manner in which students are educated in America. After the turn of the twentieth century, students began to engage in an academic program that encouraged silent reading, rather than the prior method of reading aloud that had been emphasized (Stayter & Allington, 1991). Student reading ability became increasingly assessed based on the students' ability to effectively comprehend text read independently and silently. This shift in education began to devalue a student's fluency in oral reading. Consequently, student proficiency in oral reading began to decrease. More recently, teachers have recognized the benefits of accentuating oral reading in a manner formerly utilized in education prior to the twentieth century as being helpful in developing competent readers.

Recent educational developments have returned to the mindset that students benefit tremendously from reading text aloud. These competent readers are able to identify words quickly by reading at a rapid rate which simultaneously combines the ability to identify words with the ability to predict upcoming text (Zutell & Rasinski,

1991). Reading aloud allows students to read with appropriate intonation while comprehending the text they encounter. Instructional practices that utilize the principles of oral reading strategies allow students to develop in their abilities to read fluently while thoroughly understanding the text.

The Problem Statement

The question deals with the comparative relationship between students' abilities in oral reading fluency (ORF) and their comprehension of text, using the TerraNova and Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessments, among the student second and third grade populations in Elmira, New York.

Null Hypotheses

1. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three at a private, Catholic elementary school in Elmira, New York.
2. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grade two at a private, Catholic elementary school in Elmira, New York.
3. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grade three at a private, Catholic elementary school in Elmira, New York.
4. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three, at a private, Catholic elementary school in Elmira, New York, that are proficient in oral reading fluency.

5. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three, at a private, Catholic elementary school in Elmira, New York, that are not proficient in oral reading fluency.
6. There is not a relationship between oral reading fluency and reading comprehension scores for students in grades two and three at a private, Catholic elementary school in Elmira, New York.

The Professional Significance of the Study

A correlational relationship between oral reading fluency and reading comprehension is significant to educators. In an era of high-stakes testing and increased accountability, it is important to thoroughly understand the components of the reading process (Haetel & Lorie, 2004). The establishment of a relationship between oral reading fluency and reading comprehension can provide educators with information that could most efficiently ensure students success. This information could prove to be invaluable to educators in providing opportunities to meet the literacy needs of their students.

A better understanding of the relationship between oral reading fluency and reading comprehension could assist educators in providing appropriate instruction in combating illiteracy. The United States education system is diligently attempting to modify instruction, through governmental legislation such as the No Child Left Behind legislation. A relationship between oral reading fluency and reading comprehension directs instruction in a way that is systematically and sequentially presented (Hintze, Ryan & Stoner, 2003). In providing students with such instruction, teachers are facilitating opportunities for students to succeed.

An Overview of the Methodology

Establishing a comparative relationship between oral reading fluency and comprehension is done using assessments issued to students within their classroom environment. The organization of data for this study will determine the existence of a correlation between oral reading fluency and comprehension among the second and third grade students at a private, Catholic elementary school in Elmira, New York. The Pearson's r statistical test will generate a series of tables that will define the statistical relationship between the two factors. Each of the hypotheses will be tested using this format. The relationships can be determined using this information.

The Oral Reading Fluency (ORF) component of the DIBELS assessment assesses a student's ability to read fluently and accurately (Langdon, 2004). The students are asked to read continuously for a period of one minute. Accuracy is maintained by the teacher's use of a stopwatch. The teacher documents any miscues the student makes during the allotted period of time. The ORF score is then constructed based on the number of correctly read words produced by the student during the assessment time. Student progress is also monitored on a biweekly schedule. Student progress regarding ORF can be documented throughout the academic career through the utilization of this assessment tool.

The TerraNova Basic Multiple Assessments are published by McGraw-Hill Publishing Company and are an outcome assessment utilized by New York State to measure comprehension. The comprehension component of the TerraNova Basic Multiple Assessments provides students with the opportunity to glean meaning from text. The student is then expected to respond to a battery of open-ended and multiple choice

questions assessing their ability to comprehend the text previously encountered. This reliable, valid assessment provides educators with information regarding their students' abilities to comprehend text appropriately (CTB/McGraw-Hill, 2005).

The procedures were conducted in a manner already established at a private, Catholic elementary school in Elmira, New York. The second and third grade classroom teachers conducted the assessments following the published guidelines.

Procedures for collecting oral reading fluency using (DIBELS) (University of Oregon, 2005):

- Each student is tested on a one-on-one basis with the teacher in an individual setting to eliminate distractions.
- The students are asked to read aloud a series of three reading passages for a period of one minute for each passage. For each passage, the teacher maintains the time period by using a stopwatch.
- While the student is reading, the teacher is carefully recording any mistakes. At the conclusion of each reading, the number of correct words read is computed for each student.
- The student's median score is recorded as his or her score.

Procedures for collecting reading achievement data using TerraNova (CTB/McGraw-Hill, 2005):

- The teacher will conduct the test according to the guidelines provided by the McGraw-Hill Publishing Company.
- Upon completion of the test, the principal of a private, Catholic elementary school in Elmira, New York will have the tests scored by a scoring agency.

- The returned scores will yield a reading comprehension score for each student based on his or her performance on the Terranova assessment.

Definitions of Key Terms

Fluency – Fluency is the ability to read a text quickly, accurately, and with proper expression.

Instructional-level text – Instructional-level text is text that is at the student's appropriate reading level.

No Child Left Behind – No Child Left Behind is a federally-initiated program designed to revamp the educational system through the following principles: greater local control, more choices for parents, accountability for results and flexibility.

Word Callers – When a student efficiently decodes the words in a text into their spoken forms without comprehension of the passage taking place (Hamilton & Shinn, 2003).

Chapter 2

A Review of the Literature

Literacy in Modern Society

Currently, the American society depends upon its citizens to possess a reasonable level of literacy. A basic level of literacy is necessary if individuals are to achieve success as workers, parents, consumers, and citizens. In these roles success is defined by one's ability to communicate effectively. Communication generally requires one to utilize reading, writing, and speaking skills appropriately. Additionally, individuals need to be able to combine their communication skills with higher order cognitive skills and computational skills in order to solve problems effectively (Askov, 1991). Without a certain amount of proficiency regarding the combination of these skills, success in modern day society is limited.

As society has made numerous transformations in recent decades, the requirements for proficiency regarding literacy have dramatically transformed. The definition of "literate" has transformed over the decades from merely being able to write one's name to completing the eighth grade to now being able to understand and respond to highly-sophisticated information sources in an appropriate manner (Askov, 1991). The ever-increasing amount of technology within society has increased the literacy requirements for being successful (Roman, 2004). Additionally, the workplace is increasingly more sophisticated as it becomes more affected by international competition. The more sophisticated workplace requires employees to possess a higher level of communication skills where illiteracy is completely unacceptable. Instead, all workers are being held to a literacy standard that is proportionately increasing with the gains in society.

The literacy definition is constantly transforming as society continues to develop. The view that literacy is merely the acquisition of skills and abilities is inappropriate as current literacy is viewed as a continuum of skills. While developing skills are important to becoming a competent reader, becoming literate is not a direct progression through a series of skills. By defining literacy in this manner, the perception is that literacy is something that is constantly evolving. Therefore, individuals must be constantly refining their skills in an effort to maintain current abilities. One's literacy abilities must then be combined efficiently to complete higher-order skills which are imperative to excelling in the current workplace.

Additionally, literacy competency is being understood in terms of the contextual basis for the skills. Earlier perceptions of literacy were rooted merely in the ability to identify and produce the written word. However, modern expectations regarding literacy are contextual in that different situations transform the literacy expectations. Literacy is viewed more as a tool for achieving the high-level thinking abilities required for success. With technology pervasively influencing modern society, it is imperative that an individual attain a certain level of technological literacy. This increasingly vast understanding of what it means to be literate is necessary for achieving success in life. Therefore, those individuals that are unable to become efficiently literate at an appropriate time of their lives may be placed at an extreme disadvantage in appropriately benefiting from the resources of modern society.

Functional literacy is a term that is continuously developing and adjusting based on the needs of society. Literacy of a population is generally defined in terms of the number of individuals that are functionally literate. Different societies have different

requirements for being functionally literate. Additionally, different times in American history require differing levels of literacy for success in society (Roman, 2004). Current levels of literacy that are required for one to be functionally literate are extremely vast. Functionally illiterate individuals can have difficulty securing gainful employment (Askov, 1991). Unfortunately, not every individual is able to achieve proficient levels of literacy. Consequently, success within society can be extremely limited based on this extremely developed definition of being functionally literate.

Individuals that are not functionally literate are placed at a disadvantage that has a large impact upon one's life. Illiterate individuals generally experience economic, physical, and emotional consequences. Research has shown that there is a positive relationship between literacy levels and employment stability and income. In fact, seventy-five percent of unemployed adults are functionally illiterate (Roman, 2004). This relationship is powerful because there is a definite effect of literacy on one's ability to become a contributing member of society. Unfortunately, individuals that are functionally illiterate may be unable to obtain gainful employment with a competitive wage. Thus the societal effects of having a group of the Americans unable to support themselves financially through gainful employment are extremely significant and potentially detrimental to society as a whole.

Being functionally illiterate is also a significant factor in one's ability to stay physically healthy. Individuals that experience difficulty reading, writing and proficiently communicating are less likely to have adequate health care. These individuals do not generally work at a job that provides them with health insurance so the expense of health care is, at times, unsupported by one's financial situation. Additionally, individuals that

are functionally illiterate are more likely to incorrectly take medications or follow the directions of health professionals (Roman, 2004). The impact of these individuals and their inability to properly care for themselves is pervasive and, at times, must be managed by government organizations.

Current Literacy Trends

Illiteracy is a trend that is growing throughout the United States. Approximately 2.3 million individuals are added to the illiterate population annually (Roman, 2004). This population is largely comprised of individuals that do not complete high school and those individuals that immigrate to America. Since illiteracy can be identified as an intergenerational trend, it is critical to acknowledge that students with illiterate parents are at risk for being illiterate and, consequently, unsuccessful at school.

Learning to read is a seemingly natural process for a number of readers. However, a significant amount of readers have significant difficulties acquiring the necessary skills in becoming competent readers. At times, students have observed ineffective models of literacy skills. These ineffective modeling opportunities do not allow the students to mirror their reading abilities after the model. Additionally, some students that have difficulties learning to read have not been encouraged to understand the ways literacy can benefit their lives. Students can also experience literacy difficulties due to their inability at modeling their behavior after more competent readers and thoroughly understanding the importance of acquiring literacy skills for their own benefit (Cambourne, 2002).

Oftentimes, readers feel an unnecessary aversion toward reading due to their limited success in the reading process. While some readers may possess an inherent difficulty with the reading process that cannot be remedied, there is generally a way to

remediate the skills of readers that have been unsuccessful. Only a small percentage, approximately three to five percent of the reading population, is severely reading disabled and unable to be helped with intensive intervention (Pogorzelski & Wheldall, 2002). Due to this limited number of individuals that are truly reading disabled, our educational system needs to diligently intervene with students experiencing some difficulty so as to promote their skills. It is absolutely essential for success in the educational system and success throughout one's entire life to remediate reading skills that are not effectively promoting one's abilities.

Success in school is promoted by a number of significant factors. Essential to the learning process in school is the ability to read proficiently (Taylor & Short, 1992). Unfortunately, a vast majority of the students that experience difficulty with school are unable to competently read at an appropriate level for their chronological age. Instead, their difficulties with the reading process persevere throughout their educational experience and may inhibit their ability to ever find success within their educational career. This inability to attain success with the reading process can pervasively impact a student's ability to achieve success at school. Unfortunately, this lack of success can follow a student throughout his entire educational career.

Reading difficulties have become pervasive in a large number of students in the American educational system. Generally, students identified as requiring special education services are likely to experience some deficiencies regarding their abilities in reading. With the prevalence of this population experiencing difficulties in reading, national concern has been directed to remedying these students' deficiencies. Unfortunately, without extensive, intense intervention, literacy failure is resistant to

remediation. As of third grade, students experiencing literacy deficiencies that are able to receive intervention can have their deficiencies stabilized. However, rarely are these individuals able to make the gains necessary in matching their literacy skills to those individuals that are reading at an appropriate level for their chronological age (Langdon, 2004). The pervasive impact of having citizens that are unable to achieve a basic level of literacy competency is a tremendous concern for American educational systems.

Diagnosis and Interventions

Interventions are frequently recommended to remediate student reading performance. While it is important to provide appropriate support regarding the students' inabilities in successfully overcoming their reading difficulties, some reading support opportunities may not succeed in compensating for true difficulties. Many typical interventions used with students experiencing difficulties with the reading process are effective at stabilizing the student's abilities but not at actually providing remediation. Consequently, a vast majority of these students that attend remedial programs experience difficulty developing their skills in a manner that accelerates them to a reading level synonymous with their chronological age counterparts (Torgesen, Alexander, Wagner, Rashotte, Voeller, Conway & Rose, 2001). This deficiency makes it difficult for students to be successful as the educational experience becomes more sophisticated.

Individuals tend to be successful at tasks they believe that they can be successful at. This level of self-efficacy regarding reading refers to the individual reader's feelings about how successful they can be in the reading process (Ferrara, 2005). As students become more motivated toward the reading process, they are subsequently more likely to be successful. Initial indicators of reading performance illustrate that students that are

struggling readers do not enjoy reading. Contrastingly, students that are motivated toward the reading process are more likely to become better readers with a greater ability to read fluently. Initial indicators illustrate those students that are motivated toward reading become more successful at the reading process.

Many individuals are identified annually as having a difficult time learning to read. A number of factors have been identified as causing individuals to have difficulty with reading. The National Research Council identified three reasons why people have difficulty learning to read:

- Difficulties in learning to read words accurately and fluently
- Failure to acquire the verbal knowledge and thinking skills required to understand encountered text
- Poor motivation in learning how to read (Schatschneider & Torgesen, 2004).

These influences significantly impact a reader's ability to succeed at the reading process. One needs to compensate for these disadvantages in becoming a fluent reader.

Fluency, the ability to read orally in a smooth and effortless manner, has been referred to as a critical component of the reading process (Allinder, Dunse, Brunken, & Obermiller-Krolikowski, 2001). Fluent reading is an imperative skill for all readers to develop. In fact, fluency has been likened to the development of other psychomotor skills such as playing tennis, with both skills benefiting from practice (Chard, Vaughn & Tyler, 2002). Readers who focus more intensely on practicing their reading skills are generally able to become more fluent readers. Consequently, as students become more fluent readers, due to extensive practice, they are able to apply more conscious effort to the task of comprehending the text.

Oral reading fluency is distinctly separated into two components that are critical for a student to possess prior to being able to read fluently. The two necessary components are speed and accuracy (Samuels, 1979; Schatschneider & Torgesen, 2004). Accuracy refers to a student's ability to accurately identify words within the context of the passage he encounters. In order to competently read with accuracy, readers need to have a thorough vocabulary that enables them to recognize high-frequency words and other words that follow typical grapho-phonic rules (Worthy & Broaddus, 2002). Rapidly identifying these words is critical in achieving accuracy. The reader needs to possess a firm understanding of grapho-phonetic rules that can direct the manner in which word identification occurs.

As readers develop proficiency with reading, their ability to read more rapidly significantly improves. As readers improve in regard to their ability to read fluently, reaction time regarding text identification decreases at a corresponding rate. Initially, in acquiring their literacy skills, students generally experience rapid gains regarding speed (Naslund & Smolkin, 1997). This is largely due to the simplicity of the books emergent readers focus on. The books are deemed simple due to the emphasis on high-frequency words. As students begin to encounter more difficult books, they are unable to necessarily match those initial speed increases at the same rate. This is largely due to the fact that they are developing their word recognition skills for words that are not as frequently present in text. However, as proficiency with text improves, it allows one to become increasingly more able to read at a rate that would be deemed fluent.

Speed refers to the student's ability to identify words quickly. Reading fluently requires a student to read fairly rapidly while accurately identifying a large percentage of

the words so as to ensure comprehension can occur. Readers who are able to read at a rapid rate should be able to utilize appropriate phrasing (Welsch, 2006). The reader needs to read with smoothness and expressiveness that contributes to the overall sound of the reading. This reading should even have a musical quality as it is read with appropriate phrasing and proper pace (Worthy & Broaddus, 2002).

When a reader lacks fluency or laboriously recognizes words, the reader's ability to comprehend text is significantly impacted. Being able to attune significant mental energy toward the reading process enables readers to proficiently engage in enjoying reading. Fluent readers can engage in reading in a way that allows them to supersede merely recognizing words. Instead, they are able to enjoy the reading process and thoroughly understand encountered text (Samuels, 1979). Consequently, readers must achieve this sense of fluency to be able to appreciate the meaning of text.

Initially, readers generally have some difficulty recognizing words accurately. This initial frustration can be compensated for through practice. As one becomes more fluent in the reading process, mental energy can be devoted to the task of comprehending. Although initially readers may find the reading process difficult, with more practice the task can become more automatic. This automaticity allows a reader to apply brain functions to fully comprehending the encountered text (Nathan & Stanovich, 1991). Once the reading becomes automatic, the process is able to be performed with minimal attention and conscious effort (Samuels & Flor, 1997). The corresponding automaticity enables a reader to more fully enjoy the reading process.

As automaticity improves for students regarding their reading abilities, the effort expended in successful reading is dramatically reduced. This effortlessness is essential in

becoming a fluent reader. It enables individuals to achieve the ultimate stages of fluency where one is able to automatically derive meaning from text. Automatic tasks can generally be done in accordance with another task (Naslund & Smolkin, 1997). An example of an automatic task that can be done in accordance with another task is to carry on a conversation while driving. Similarly, as reading becomes more effortless and automatic, it is possible to divert mental attention toward another activity, especially comprehending.

Initially, a greater level of consciousness is essential in processing text. With any new task, the initial energy exerted is dramatic. However, as the individual becomes more familiarized with completing the task, the individual is able to complete the task in a more automatic manner (Naslund & Smolkin, 1997). This level of consciousness fluctuates as the task becomes more automatic or easier to the individual (Brown & Roos-Gilbert, 1995). As a reader becomes more proficient at reading, he is able to put forth significantly less conscious effort and complete the task automatically. This automaticity and lack of conscious effort is essential if comprehension is to occur at an effective rate.

As reading becomes more automatic, students are able to utilize a number of strategies to make the reading process less laborious for them. One of the most significant strategies that readers utilize to read effectively is grouping or "chunking" words into meaningful phrases and clauses (Zutell & Rasinski, 1991). By grouping words into meaningful chunks, readers are able to utilize meaning to predict appropriate words that contribute to meaning. This ability to supersede merely isolated word identification allows readers to deflect their attention from word-by-word reading to actually reading with an increased level of fluency.

The Matthew Effect

Successful readers are those that generally prioritize reading through practice (Tracey & Young, 2002). These students tend to feel successful while reading so they are more likely to read more often. Due to this continued practice, these students' reading skills tend to continuously improve (Green, 1999). Contrastingly, students that do not feel successful toward reading are less likely to engage in reading. Due to this limited practice in and out of school, these students are unable to make gains in their reading abilities. Following the Biblical analogy in the book of Matthew which states that "the rich get richer," the belief that students that read often become better readers is called the Matthew Effect (Rasinski, 2000).

The Matthew Effect was initially developed by Robert Merton (1968) to describe the discrepancy between how students progress in becoming successful in school. The biblical basis of this assertion is a quote found in Matthew 25, verse 29 (King James Version) which states, 'For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath.' Merton's correlation for this verse to the educational community was that students that have a discrepancy between initial student performances experience an increase in this discrepancy as they progress in school. This is due to the students' initial lack of preparedness. Due to the initial lack of skills, students lag further and further behind the other students as the learning becomes more developed and sophisticated. Consequently, this is a gap that students are unable to overcome. Therefore, this initial lack of preparedness can increasingly inhibit one's success in school.

Further developments of The Matthew Effect in education were made by Walberg and Tsai (1983). The Matthew Effect began to be synonymous with the link between socioeconomic status and learning achievement (Luyten, Cremers-vanWees, & Bosher, 2003). Students from higher social backgrounds are deemed 'the haves' and tend to achieve more academically. The students that are from lower social backgrounds, 'the have-nots,' are placed at a disadvantage regarding their educational achievements. Consequently, this gap is difficult for students to transcend due to the limitations that are initially placed upon their success by their limited preparedness.

The Matthew Effect gained true prominence within the educational community with the research of Stanovich (1986). This research linked The Matthew Effect to the reading process in an invaluable way. Regarding reading, the perception is that if students are more capable readers, they will engage more thoroughly in the reading process, therefore, improving their skills. Correspondingly, those students that are not successful in the reading process will not be likely to cultivate their skills continuously, therefore, broadening their gap between the abilities of 'the haves' and 'the have-nots' of reading (Scarborough & Parker, 2003).

Two significant concepts are of vital importance in the description of The Matthew Effect. The concepts of reciprocal relations and organism-environment correlation are of paramount importance in the development of this theory. A reciprocal relation is identified in the reading process as the relationship between word recognition and reading fluency (Luyten et. al., 2003). As readers engage in the reading process, they are able to identify more words. As this word recognition improves, they are able to contextually utilize meaning to improve their fluency. With improvements in fluency,

reading comprehension is able to be accentuated. These reciprocal relationships within the reading process are critical in promoting one's ability to be a successful reader. Therefore, reciprocal relationships are in integral component of The Matthew Effect.

The second component of The Matthew Effect is the organism-environment correlation which contributes to one's ability to read successfully. For optimum success in education, particularly in reading, one's environment should be supportive and encouraging. Unfortunately, teachers, parents, and other involved individuals tend to expect less of poor-performing students. With these negative expectations, success can be inhibited. Instead, as outlined by The Matthew Effect, a reader needs to have an environment that is supportive of his efforts to ensure success (Luyten et. al., 2003).

Developing Reading Skills

Developing one's reading skills is an activity that requires considerable effort on behalf of the individual reader. Learning one's native language is viewed as a natural act which automatically seems to occur through exposure to the language. Contrastingly, learning to read is viewed as an unnatural act that requires some instruction to "break the code" (Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998). Although frequently practicing reading is imperative to developing one's reading skills, readers do require some initial instruction to make gains in the reading process. Teachers and parents can assist students in acquiring literacy skills with extensive modeling.

Once readers are able to develop their reading skills to the point that fluent reading is characteristic of their abilities, oral reading can be accentuated by expression and voice inflection (Griffith & Rasinski, 2004). Fluent reading enables students to transcend to fully comprehending the text from focusing entirely on identifying the

words. They can then use this comprehension to drive their oral reading. Thorough comprehension assists a student in focusing on the meaning and appropriately using expression in promoting that meaning.

Orally reading in a manner that exhibits prosody and expression causes the reader to be able to fully experience and enjoy the reading process. Prosody is the general linguistic term that is used to describe the rhythmic and tonal features of speech (Dowhower,1991). In fact, fluent readers are able to read with good phrasing and expression, thereby portraying appropriate meaning into their text during oral reading (Griffith & Rasinski, 2004). This promotes their obtaining a more thorough understanding of the content of the text.

Expressive reading is characterized by a number of factors that contribute to an individual's ability to read smoothly and derive meaning from the encountered text. Through practice, students can make tremendous gains in accuracy, rate, and comprehension. Once the student has been able to transcend this benchmark, they are able to make their reading more expressive due to a decrease of necessary energy for attention. At this point, students can begin to focus on reading abilities including pausal intrusions or inappropriate hesitations within orally read text (Schwanentluge, Hamilton, Kuhn, & Stahl, 2004). Additionally, expressive readers can focus on the length of phrases and the appropriateness of pauses as these contribute to fluency (Dowhower, 1991).

Learning to read can be a formidable task for some students. As many as twenty-five percent of students that have difficulty learning to read suffer from a variety of cognitive, linguistic, or socio-emotional factors (Foorman et. al., 1998). Compensating for these hindrances can be a formidable task that students need to be able to offset in

order to become proficient readers. Some students that experience difficulties do not have positive examples within their life, especially in their immediate family, of individuals that value literacy or the process of becoming literate. These children are initially placed at a disadvantage due to a perception that literacy is unnecessary that may have been presented to them from others. Other cognitive and linguistic factors can be as potentially damaging to the student's ability to develop his literacy skills.

Unfortunately, a student's ability to compensate for his literacy deficiencies is severely inhibited after grade three. Typically education shifts in the third grade from "learning to read" to "reading to learn." Approximately seventy-four percent of the readers that were poor readers in third grade continued to be poor readers in ninth grade (Foorman et. al., 1998). In fact, the students with limited proficiency regarding literacy are more likely to experience a deficit, not a lag, model of difficulty throughout their educational experience. This deficiency is rarely compensated for and these students continue to experience a lack of success in becoming functionally literate throughout their entire lives.

Once automaticity regarding reading occurs, readers are able to interact with and process text in a much more profound manner. As readers become more mature and more developed in the reading process, they are able to involuntarily complete the task due to its automatic nature. At this point, readers are able to devote more intentional energy to processing the text. Higher-level thinking, involving metacognition, can occur when students are not merely focused on identifying words. Instead, they are able to conduct higher level syntactic, propositional, and referential processing regarding the text they

encounter (Brown & Roos-Gilbert, 1995). As society's expectations become more developed, these are skills that are essential for success.

As students become more proficient readers, they progress through a series of stages in becoming fluent readers. Initially, the student enters the non-accurate stage. During this stage, a student has difficulty recognizing words regardless of the amount of time made available for the student to do so (Samuels, 1979). These readers are unable to generate meaning from text appropriately. The common perception of these individuals is that they are young children that are beginning to develop their reading skills. However, with the influx of illiterate Americans, a number of adults are unable to use print appropriately to gain an understanding of the world around them (Askov, 1991).

Early exposure to written text is imperative to developing a reading proficiency. Students enter school generally with an overall command of their native language; they can use complex sentences, and possess a spoken vocabulary of approximately five thousand words (Gambrell, 2004). Making the transformation from utilizing these skills for oral language to utilizing them for gleaning meaning from text requires students to develop some specific skills. Students need to develop their phonological awareness abilities while additionally cultivating their higher order oral language skills. Becoming a skilled reader can be significantly impacted by factors such as race, gender, and socioeconomic status. Overcoming any deficiencies generated by one's background is essential in promoting success in word identification and ultimately fluent reading.

Once a student is able to recognize words in print with precision, he has progressed into the accuracy stage. Generally, this early accuracy regarding word identification requires tremendous mental effort and considerable attention. The word-

for-word method of decoding is laborious and time-consuming for the reader (Allinder et. al., 2001). Consequently, these students read with increased attention to the print, thereby making their oral reading seem laborious. Comprehension is severely inhibited by the inability of students, during this stage, to comprehend text thoroughly. Instead mental energy is consumed with word identification.

Students beginning to recognize words with accuracy are impaired in their ability to read fluently. Expression while reading is not characteristic of students at this stage. Students tend to read aloud in a monotone voice, completely disregarding appropriate phrasing or expression. Instead, students are focused on identifying the print; therefore, the student's ability to comprehend the text can be severely limited. Instead, mental efforts are being utilized entirely to identify text and not thoroughly comprehend it. Readers at this stage may be able to identify the words but invariably lack the ability to fully comprehend them.

Students progressing into the automatic stage of reading begin to group words to contribute to their ability to read fluently (Worthy & Broaddus, 2002). Initially, readers are generally able to recognize isolated words or parts of words. As readers become more proficient at word recognition, they can automatically recognize words. Once individual words are identified accurately, students are able to begin grouping words. By grouping words, they can make the gradual transition from identifying individual words to reading meaningful phrases. Students at this stage are becoming competent readers that are able to utilize meaning in making appropriate predictions regarding word choice. Uses of these skills enable the reader in developing the ability to fluently read text (Katzir, Youngsuk, Wolf, O'Brien, Kennedy, Lovett, & Morris, 2006).

The automatic stage in developing the ability to read fluently is the final stage. During this stage, students are able to recognize print automatically. These readers can proficiently combine a number of reading skills, such as sight word recognition and contextually identifying words, to generate meaning from text (Whitaker, Harvey, Hassell, Liner, & Tutterrow, 2006). Generally, during this stage, the student's oral reading rate is equivalent to or possibly even faster than the student's normal speaking rate. The student may still struggle in identifying isolated words throughout the text; however, these words tend not to inhibit comprehension. This is largely because the student is generally inserting words that contextually contribute to meaning. Although the student may insert words that do not accurately represent the written text, the inserted word does not inhibit meaning (Laing, 2002). Once a student has achieved this level of fluency, he is able to comprehend thoroughly diverse text that is at an appropriate level for their reading ability.

Automatic readers are competent in that they are able to instantly and automatically recognize text as combined units designed to portray meaning (Naslund & Smolkin, 1997). Competent readers are able to merely view text and obtain meaning from it. Automatic processing occurs to the point that the reader is not entirely conscious of the reading that is occurring. This is a definite development from beginning readers. Early readers must interact laboriously with text at a letter-by-letter rate or even a word-by-word rate. Instead, as readers become more proficient, they are able to look at passages and understand them as a whole component.

Skills for Fluent Reading

Successful reading requires a proficiency at combining at least two critical skills. Decoding words effectively and thoroughly comprehending text are the imperative skills necessary in promoting successful reading (Griffith & Rasinski, 2004). In order to proficiently combine these skills, a number of subskills are required to read effectively. Students need to have a firm grasp of decoding tools such as phonemic awareness and phonological knowledge. Additionally, readers need to be instructed in the critical thinking skills that need to be developed in order to efficiently comprehend text. Proficiently reading requires one to have a firm understanding of these various skills.

Proficient reading with fluency requires students to efficiently combine a series of sub skills. In order to read fluently, readers need to able to cohesively combine reading elements that ultimately allow them to obtain meaning from their text. Without the ability to apply a number of reading skills, including sight word recognition, phonemic awareness and other crucial skills, readers are rarely able to transcend into the fluent reader stage. Since comprehension is so dependent upon the ability to read fluently, the ultimate goal of reading for meaning can be severely inhibited when there is difficulty decoding the words.

Students need to be able to possess proficient phonemic awareness skills which allow them to build the foundational skills necessary for fluent reading. Phonemic awareness is the ability to comprehend the sub-syllabic or phonemic segments of speech (Scholes, 1998). Readers that are proficient with phonemic awareness are able to complete rhyme activities and other activities that compare the various ways the sounds combine to make words. Oftentimes, readers that develop these skills are those

individuals that were frequently read aloud to before and during the process of becoming competent readers. Phonemic awareness is largely a foundational skill that must be accentuated by those individuals instructing reading to students. Students that are able to internalize the phonemic components of words can apply these general rules to decoding other words that are encountered through reading.

Additionally, phonological processing is a critical component of word identification. Phonological processing is the ability to decode phonetically by utilizing the sounds comprising words to identify the entire word. Students with difficulties in fluency frequently experience a difficulty phonologically processing encountered words (Catts, Adlof & Weismer, 2006). Below-average readers generally lack the phonological skills with above average readers proficiently utilize in the reading process (Savage, Frederickson, Godowin, Patni, Smith, & Tuersley, 2005). Although automaticity occurs when readers are able to transcend "sounding out" words or depending entirely on letter sound relationships, it is still critical that they are able to use phonetic strategies to make accurate predictions regarding text identification. Readers tend to focus on the beginning and ending sounds in generating appropriate words that contextually and grapho-phonetically contribute to the text meaning in an appropriate manner. Therefore, students must be able to depend upon their phonological processing skills to be able to effectively comprehend text. This skill must be developed continuously as one becomes a more fluent reader.

One of the critical sub skills of fluent reading is the ability to automatically recognize words, especially those words deemed to be sight words (Chard et. al., 2002). Sight words are those words that occur frequently in text and sometimes are referred to as

high-frequency words (Nicholson, 1998). As students are exposed to words more and more through extensive practice, those words that are frequently present in text become automatically identified by the reader (Schatschneider & Torgesen, 2004). Oftentimes, words that occur frequently in text do not follow the regular phonetic patterns of the English language, and therefore, readers need to become familiar with these words automatically (Johnston, 1998). Once the students are able to accurately recognize those words that are prevalent in text, they are generally able to build their skills and apply more mental effort to identifying words that are more difficult in nature.

An additional component of fluent reading is the ability to combine decoded words into phrases. Readers who are able to combine words into meaningful phrases are able to utilize meaning to generate predictions regarding text identification (Chard et. al., 2002). Generating meaningful phrases enables a student to utilize the meaning of text to accurately make predictions regarding the appropriate words that are present in the text. Once readers are able to utilize text meaning to generate predictions regarding appropriate word identification, they are generally able to progress to utilizing meaning to direct the reading process. Once text identification no longer inhibits one's ability to fluently read, students are able to progress into the stage where meaning is driving their reading. This stage enables one to truly enjoy and appreciate the reading process due to the invariable emphasis upon the meaning of the text (Schatschneider & Torgesen, 2004).

The ability to read fluently is a complex interplay of a variety of tasks. Students need to be able to translate letters into sound combinations that equate to words. Combining these sound combinations into recognizable words requires a level of proficiency regarding the phonemic elements of words. Readers are then required to

combine words to make understandable sentences. These sentences contribute to the overall meaning of the text, allowing the reader to obtain meaning from the text (Fuchs et. al., 2001). Therefore, readers must have a firm understanding of the various interplays that occur between the subcomponents of text in order to thoroughly construct meaning.

Knowledge regarding vocabulary is essential to fully comprehending text. There is a strong, unequivocal relationship between reading comprehension and vocabulary knowledge; however, further research is required regarding the causal relationships between the two constructs (Ehren, 2005). It seems that reading is enhanced by extensive vocabulary knowledge. Correspondingly, one's vocabulary development is enhanced by frequent, fluent reading. Students need to have a thorough understanding of the words they are identifying in order to comprehend text. Although students can generate meanings from the context of the sentence and the passage, it is essential that reading instruction include systematic teaching of independent vocabulary acquisition techniques. This enables a learner to further his knowledge of words without formal instruction on individual words.

Once readers are able to combine the components of successful word identification, readers are able to rely more heavily upon the contextual clues to identify words and check their responses. As proficient readers engage in the reading process, they are able to check their responses, ensuring that their reading is contextual and accurately contributing to the overall meaning of the text. This interplay occurs quickly as readers constantly compare their oral reading to the meaning that they have perceived through the overall reading of the text. Once a reader is able to identify words

automatically or read fluently, he is even more able to rely exclusively upon their comprehension of the meaning of a selection to check his responses to the print.

Successful reading is a complex interplay of a number of tasks for which readers must possess a certain level of proficiency. These tasks must be constantly fostered and developed if one is to further one's reading skills (Fuchs et. al., 2001). Students need to be able to use metacognition to analyze their own thoughts when encountering ideas and thoughts in text. Using these higher level thinking skills, students apply their background knowledge regarding a topic to encountered text. Utilizing these intertwined skills requires students to actively analyze the text they encounter and develop a thorough understanding of the information (Dowhower, 1999).

Comprehension occurs seemingly naturally for a number of readers. The ultimate goal of reading is that the internal dialogue that promotes one's understanding of text occurs without conscious attention (Walker, 2005). This internal dialogue builds one's ability to make connections to text. These connections occur by the reader transposing the knowledge he already possesses to the encountered text. At times, well-read students automatically make these connections. However, oftentimes students require instruction in the ways that these connections are made. Unfortunately, students that are not confident believe they are unable to comprehend appropriately. Consequently, their low level of self-efficacy contributes to their inability to comprehend thoroughly.

Reading rate has been an increasingly emphasized component of reading research throughout the educational research community. Approximately fifteen percent of all fourth graders read "no faster than seventy-four words per minute" (Rasinski, 2000). This is a pace which would make it difficult for a reader to maintain focus on the ideas that are

developed within the text. A student reading at this rate would have difficulty maintaining a firm understanding of the meaning within even a sentence. Understanding throughout an entire section of text would be virtually impossible for an individual reading at this pace. Overall, students reading at such a pace would be unable to learn effectively within a normal school environment. Therefore, the educational research community is concerned about remedying these deficiencies in student reading.

As a student develops the ability to automatically read, a certain level of autonomy must be achieved on behalf of the developing reader. This autonomy development is an automatic task that occurs due to instruction or deliberate effort. Students that are autonomous can automatically process tasks. One of the most pronounced studies focusing on the autonomy of automatic processing is the Stroop Effect (Naslund & Smolkin, 1997). The Stroop Effect test instructs subjects to read words written in different colors. Readers are encouraged to read automatically and determine which color word the text represents. This requires them to overlook the fact that the word may or may not be written in the correct color. The automaticity of responses provides insight into the manner in which the brain responds to stimulus.

The formidable task outlined by the Stroop Effect is a foundational study in the analysis of automaticity. The goal of this test is to strive for continuity between the word color and the actual word. The results of this study state that the subjects are much slower to name the ink color if the word spelled the name of another color. For example, if the word “red” was written in green ink, correct responses were not generated as easily. Similarly, subjects were more rapidly able to identify words that were written in the correct color. This study shows that automaticity is something that occurs naturally when

the brain is uninhibited by interference (Brown & Roos-Gilbert, 1997). Therefore, the reading process is accentuated when mental energy can be entirely devoted to generating meaning from text. An overemphasis on applying mental energy to word identification can interfere with one's ability to devote exclusive mental energy to comprehension. Similar to the Stroop Effect, the reading process cannot be impaired by poor skills regarding word identification if attaining meaning is the ultimate goal.

Studies have been conducted regarding ways to improve student ability to read fluently. One particular study conducted by Kuhn (2005) analyzed the effectiveness of helping students to utilize rereading to develop their fluency. For this particular study, twenty-four second graders from a low to middle class socioeconomic status were examined. Students were separated into groups, with one group being a control group receiving only the regular instruction provided in the classroom. The students in the remaining groups were provided with a variety of text falling in their Zone of Proximal Development of the first to second grade levels. The students were encouraged to read text repeatedly until fluency was achieved. Teachers utilized modeling, repetition, positive feedback from instructors and opportunities for practice. The extensive reading, particularly as repeated readings were emphasized, positively contributed to the students' overall fluency and comprehension.

Historical Background of Reading in America

Reading instruction has undergone a series of tremendous changes that have particularly impacted the ways students become fluent readers. Prior to the beginning of the twentieth century, reading instruction emphasized oral reading almost exclusively (Stayter & Allington, 1991). Students were encouraged to read aloud to their classmates

and their teachers. The one-room schools were maintained in a way that emphasized the individual student's ability to contribute to the learning process by being an active member of the learning community. This generally entailed students reading aloud to the class as a part of the daily lesson.

The one-room school house model provided a foundational approach to the development of education in the United States. Each school was comprised of students in a variety of grades. The teacher worked individually with each grade while collaborating across grade levels to present information. Students were encouraged to work with other students at different grade levels to accentuate their own skills. Older students were encouraged to help younger students (Scarnati & Kent, 1993). The models available for younger students in developing their reading skills were vast in this educational forum. Consequently, students were able to frequently read aloud and develop their reading skills more thoroughly through the encouraged oral reading. Students during this historical period were generally able to develop their reading in a way that resulted in their becoming fluent readers.

Beginning in the late part of the nineteenth century into the beginning part of the twentieth century, the population of the United States began to undergo a metamorphosis regarding education that directly reflected the philosophies of the industrial (or factory) model for education as provided by the business community (Leland, 2002). Students began to attend large schools that were comprised of individual grades. This educational setup sharply contrasted the former arrangement of the educational system in the United States where small learning communities were more prevalent. Consequently, the mode of instruction utilized in the schools transformed to service these new educational

institutions. Reading instruction was particularly impacted by the country's new educational system.

Corresponding to the definition of the factory model, schools began to be defined in a very teacher centered manner. Due to the desire to run a school with the same principles of efficiency that are utilized in the factory model, schools followed a similar model where teachers are the central force in the classroom. This method of teaching focused the class attention on the teacher exclusively. All instruction was focused on the teacher and his or her instructional techniques (Brown, 2003). This method of instruction implied that the student's role was more of an observer, not an active participator. Students were not encouraged as much as in previous generations to actively participate in the learning process. The former model which heavily emphasized the students' oral speaking and reading was beginning to transform into a model where teachers did most of the talking.

During this time, schools even began to be structured in a completely different manner. Within grammar schools, the idea of chronological age grading began in approximately 1847. This shift was from the one-room school house to individualized grades comprised of students at the same chronological age. Students began working with one teacher for one year. Following each year, they were reassigned to a new teacher. This was upon the recommendation of the superintendent of the Boston Schools in Boston, Massachusetts in approximately 1857 (Leland, 2002). The difference was profound in that students were not able to remain with the same students and the same teachers throughout their educational experience. This learning community became

marked with change that required them to be more flexible than in the previous educational situation.

Arising from the factory model of education, a number of educational models developed and affected the manner in which education was provided in the United States. The "platoon school" was a format that developed out of the chronological grades that were developing. Once students were placed in grades based on their age, an increased effort was developing to make schools even more efficient. This efficiency resulted in departmentalizing classes where teachers rotated students and taught isolated subjects (Leland, 2002). The "platoon school" was the first to keep precision time with a series of bells indicating when the students were to move from place to place. Consequently, the school day began to be more rigidly formatted into periods and timed classes. Thus, the overall educational trend was to become more industrial in nature.

The shift in educational expectations during the first part of the twentieth century began to transform the way that students were educated to read. The expectation became that students should begin to read silently to accommodate instruction in these larger schools. Proficient readers were expected to read silently in an efficient manner (Stayter & Allington, 1991). This shift in the instructional practices regarding reading caused instructional sequences to deemphasize the importance of oral reading. Consequently, students began to significantly decline in their oral reading fluency abilities. As students were encouraged to read aloud less frequently, the student population became less proficient at reading in general (Welsch, 2006).

Increased accountability became a characteristic of the development of the educational system in the late nineteenth century and early twentieth century which had

been mirrored after the factory model. The factory model focused on a way to increase efficiency and led to financial savings as was present in the factories. Schools were encouraged to run as little businesses. Increased accountability fostered competition among populations and therefore, schools were identified as being more or less successful based on their comparison to other schools and other students' abilities to be successful or not (Dowhower, 1991). A largely emphasized characteristic that was used to compare schools was their students' performances in reading.

A popular strategy for instructing reading within classrooms was developed and continued through these educational systems. This strategy was called "round robin" reading and was used with students that were reading unrehearsed passages (Reutzel & Hollingsworth, 1993). Within the classroom, the students would read one component of the text and the teacher would then call on another student to read the next passage. Teachers have reported, over the years, that this program is successful largely due to the nature of the task, which requires students to pay attention to the passage being read. Students need to maintain focus on the text being read due to the sporadic nature of the task. They may be selected as the next reader and would, therefore, need to know exactly where the previous reader concluded. While teachers reported success with this instructional strategy, the success has been largely contributed to the classroom management benefits it provides. Students are forced to be attentive to the reading, thereby helping the teacher effectively manage the students. However, the "round robin" strategy has not promoted fluency among students (Worthy & Broaddus, 2002). Instead, it has been cited as a negative contributor to a student's ability to develop fluent reading skills due to its' wide use by teachers in the past century.

Accountability in Modern Society

The foundation of accountability that was begun in the late nineteenth century and early twentieth century is something that has continued throughout the present day educational system. Current students, teachers, administrators, and school districts are being held to accountability standards that dictate a number of factors, including their funding (Dearman & Alber, 2005). While educational systems need to be held to an appropriate standard, it can be difficult to maintain accountability. A current emphasis on student performance regarding oral reading is driving the accountability present in today's educational system.

Today's democratic society in the twenty-first century is dependent upon more highly developed levels of education among citizens than was even expected in the past. Citizens are expected to access information that empowers them to think critically. These individuals are expected to foster their own education, particularly their own literacy development. Consequently, our society is depending more increasingly on individuals becoming educated and contributing positively to the governmental society.

Today, despite the extensive evidence present in reading research, oral reading fluency is predominantly overlooked in reading instruction (Zutell & Rasinski, 1991). In order for students to become successful at developing their oral reading fluency skills, they need to observe competent models of fluent reading (Welsch, 2006; Rasinski & Fredericks, 1991). This requires teachers to frequently read aloud to students during the instructional day. Opportunities must also be made for students to work with more proficient readers among their peers to continue to develop their skills. These students also need to engage in systematic, sequential instruction that emphasizes appropriate

techniques for reading with fluency (Valencia & Buly, 2004). Teachers need to prioritize this instruction as part of their daily instructional sequences in order to ensure that students are able to fully comprehend text by reading fluently. Fluency education needs to focus on these strategies if students are able to make gains in reading.

As American homes began to make a series of transformations due to the more hectic schedules present in today's society, a differing level of family literacy is promoted within the homes. Successful readers are generally developed within literacy-rich home environments. These families read to their children, provide themselves as literate models, and work diligently to improve the reading abilities of their students. Consequently, these students generally develop a love of reading and are able to successfully become fluent readers (Rasinski & Fredericks, 1991). Unfortunately, all families are not able to provide their students with the same advantages. Students from these families are placed at a disadvantage in their literacy development that may cause them to not be successful in school.

In accordance with the guidelines of No Child Left Behind, school districts and teachers are encouraged to implement only research-based practices that are rooted in scientifically based empirical data (Ehren, 2005). This has required a number of districts to implement a basal reading series that is scientifically based. Most of these basal reading series identify skill development in terms of word recognition, vocabulary, and comprehension (Zutell & Rasinski, 1991). Oral reading fluency is viewed as a byproduct of a proficiency of word recognition, instead of as its own skill. By not viewing oral reading fluency as a skill, students are engaging in reading activities, through their basal reading program, that emphasize isolated word skills (Foorman et. al., 2004). These

activities do not acknowledge the powerful influence of oral reading fluency in developing one's competency in reading.

In fact, within the teaching community, there is tremendous discrepancy between even the definitions of fluent reading. Teachers surveyed by Zutell and Rasinski (1991) use the following phrases to identify fluent reading:

- Accurate word recognition
- Fast word recognition
- Quick reading
- Reading with a sense of joy
- Wide reading
- Reading with confidence
- Good comprehension
- Reading with expression
- Paying attention to punctuation
- Using appropriate intonation

These expressions frequently utilized by pre- and in-service teachers illustrate the discrepancy in the manner that educators define a skill that is so central to reading success. As research begins to isolate the definitions of oral reading fluency, teachers can more thoroughly align their instruction in a manner that can promote student success (Welsch, 2006).

Automaticity Model

The automaticity model of reading, proposed by LaBerge and Samuels (1974), is a foundational theory in the research on oral reading fluency. LaBerge and Samuels

ascertained that as readers become more proficient at recognizing words, they are more likely to be able to comprehend the text they read. This is largely because automatically recognizing words allows one to utilize the extra available brain space in comprehending the encountered text (Samuels, 1979). The view of skilled reading is that as students are able to deflect mental attention from lower-level skills, such as word recognition, to higher-level skills, such as comprehending text, will be able to more thoroughly comprehend encountered text (Fuchs et. al., 2001).

Correspondingly to the way each person differs from others, individuals develop cognitively into unique people with unique characteristics that differ immensely from those around them. Individuals are born with brains that are significantly influenced by the genetic make-up of their body. This influential factor is predetermined by the genetic contributions of one's parents. Additionally, external factors contribute to the development of one's brain. External factors are uniquely defined by the culture one lives in and the experiences one has throughout one's life (Green, 1999). Reading researchers acknowledge that there are a number of factors that influence the way a person's brain develops. These differences can definitely affect the manner in which a person becomes a competent reader (Goswami, 2004). Additionally, those factors must be assessed as to their effect in the way one becomes a competent reader.

Education, including reading instruction, is the process of developing, enlarging, expanding and refining students' knowledge structures (Reutzel & Hollingsworth, 1993). The brain is comprised of three different parts that allow an individual to acquire new knowledge. The automaticity model of reading is rooted in the brain research that acknowledges the brain's capabilities in processing information. While our uniqueness

impacts the manner in which we are able to respond to stimuli, there is a general format which readers cognitively follow in becoming more fluent with the reading process. It is through repeated exposure that individuals are able to utilize the full capabilities of their brain in proficiently reading.

The working memory is the initial filter that information from stimulus encounters. This phase of the memory process is the introductory stage which filters the information that an individual encounters from external stimuli. Individuals are constantly encountered by an overwhelming amount of stimuli that they need to appropriately filter so as to identify the important pieces of information that should be retained in a more permanent part of the memory. A reader needs to possess a level of proficiency at automatically processing information through one's working memory. Reading difficulties can, at times, be contributed to individuals that experience some difficulties with their working memory's ability to process information (Savage et. al., 2005).

The next stage of processing for the memory process is called short-term memory. Short-term memory continues to filter the information obtained from the working memory. This tool allows individuals to differentiate the critical components of information that are obtained from the working memory and need to be more thoroughly processed within the brain. This stage of memory is capable of retaining a small amount of information, namely seven to ten items of information (Rosenshine, 1995). Once critical information is processed in this stage, the brain can again filter through information that should be stored in a more permanent venue.

Accurate word recognition is an important responsibility of proficient readers. Readers need to be able to translate the letter combinations into coherent words that contribute to the overall meaning of a passage. As words are frequently encountered, the words become imprinted in an individual's long-term memory. Proficient reading requires individuals to rapidly recover the information present in their long-term memory. Accurately applying one's knowledge of word identification is essential for thoroughly processing encountered text.

The reading process is dramatically impacted by the functions of the working memory and the short-term memory. Readers need to be able to automatically recognize words that they have a familiarity with. They also need to be able to continuously process unfamiliar words in an effort to become more familiarized with them. As words are frequently encountered, through reading, individuals are able to recall them more rapidly (Schatschneider & Torgesen, 2004). It is through this repetition that reading and thorough comprehension can occur more fluidly (Kuhn, 2004). Proficient readers are able to automatically recall familiar words and register them quickly in the working memory.

Cognitive research states that the working memory is limited to processing a limited number of bits of information. Because this limit is restricted to only five to seven items of information, teachers that are exposing students to new information must be able to do so in small steps, allowing time for effective processing. This affords students an opportunity to process the information in their long-term memory in a way that allows it to be easily retrievable. In order for students to be able to read fluently, they must possess the ability to easily utilize skills that enable them to rapidly identify words. Teachers that afford their students time to do so will promote students' ability to read fluently, by

allowing them to be able to develop their reading skills in a manner that makes the skills occur automatically (Swanson, Howard, & Saez, 2006).

As readers encounter words more frequently, they are able to stimulate their neural networks regarding the reading. With increased practice, readers are able to imprint the encountered words more thoroughly into their brain (Green, 1999). This allows retrieval to occur more thoroughly and automatically. Students are then able to become more proficient readers because they are able to rely on their neural networks to identify words they have been previously exposed to. The working memory and the short-term memory are critical in that they provide individuals with venues for processing and responding to the stimuli presented by text.

The long-term memory is a more permanent memory sequence that enables retrieval through well-connected networks. These well-connected information structures within the brain are called knowledge structures (Rosenshine, 1995). Once an individual is able to transfer knowledge from the working memory to their long-term storage, it is able to find space in knowledge structures. Generally, these knowledge structures combine information that is connected to other pieces of information logically. As information becomes more thoroughly connected, individuals are able to more easily retrieve information. This occurs through the extensive connections made between information in this area of the brain processing.

The human brain is a complex intertwined organism comprised of an infinite number of neurons and synopses that are used to process information effectively (Chklovskii, Mel & Svoloda, 2004). Processing information requires individuals to connect information efficiently within their brain. This requires making developed and

thorough connections within their brain. Learning stimulates these developments by encouraging previously unconnected units to become connected. The complexity of the brain can be illustrated by the fact that information that is permanently stored in one's long-term memory can be retrieved for time periods spanning from months to decades (Meeter & Murre, 2004). Therefore, learning needs to continuously occur in an effort to stimulate and develop one's brain more thoroughly.

Information is processed in the brain by thoroughly progressing through a series of stages. As information is processed within one's long-term memory, a consolidation process occurs. It is through this consolidation process that information is thoroughly stored in the neocortex (Meeter & Murre, 2004). This information is so thoroughly stored within an individual's brain that it is generally protected from externally damaging forces, such as surgical anesthesia and epileptic episodes (Chklovskii et. al., 2004). Instead individuals are able to access this information for long periods of time. In fact, this processing of information can be utilized as a basis for future learning in a way that neurologically processes the information more completely.

Reading comprehension is significantly impacted by one's ability to process information within the long-term memory. Thorough understanding of encountered text occurs by relying on the knowledge that exists within an individual's neural networks. Making connections between knowledge already possessed and new knowledge requires sufficient attention. Therefore, longer passages or more complex passages may require more conscious attention than other tasks (Ferstl, Walther, Gutkke, & VonCramon, 2005).

Cognitive Psychology and The Automaticity Model

Cognitive psychologists understand, in accordance with the automaticity model of reading, that humans have only a limited amount of cognitive capacity to devote to particular tasks. Due to the limited nature of this attention, readers do not have sufficient abilities to laboriously focus on word identification while attempting to thoroughly comprehend the encountered text. Instead, cognitive psychology presents the theory called the assumption of limited processing capacity, or limited cognitive resources (Nathan & Stanovich, 1991). Similar to the automaticity model of reading, the assumption of limited processing capacity recognizes that comprehension of text is a formidable task that requires significant brain resources. Directing one's mental attention toward completing this task requires that minimal brain activity is expended in recognizing words. Instantaneous word recall allows a reader to devote substantial mental energy toward comprehending text (Fuchs et. al., 2001). Thereby, readers are able to attune to the meaning present within the text.

A grave difference exists between students that are able to read fluently and those that are not. Students in a study conducted by Tindal and Martson (1996) analyzed the differences between students deemed to be fluent and non-fluent in regard to the reading process. Students that were found to be non-fluent in reading were likely to experience frequent continuity-destroying pauses. These students make frequent mistakes, causing them to either read the passage again or completely disregard generating meaning from text by continuing on. Contrastingly, students that were deemed fluent readers were found to exhibit smooth and continuous reading that promoted their abilities to comprehend the text.

Upon entering school, students have experienced varying levels of exposure to texts. Typically, primary school teachers recognize the distinct difference between students that come from print-rich environments and those that do not. In fact, the amount of time students have been read to by an adult prior to entering school can vary immensely from zero hours to 1700 or more hours (Nathan & Stanovich, 1991). Students that are frequently read to prior to their school experience are advantaged and generally become fluent readers at a more rapid rate than those students that are not able to experience the same advantages. These fluent readers are more likely to become independent, self-monitoring readers capable of comprehending the text they encounter (Stayter & Allington, 1991). This is largely because increased exposure to text imprints the information in one's brain and enables one to identify those words in other contexts.

This brain information has significant implications for educators as they strive to improve student reading abilities. Building background knowledge enables students to make new connections to the information already present within the knowledge structure (Ferrara, 2005). Once a reader is able to connect the reading to an information structure the reader is already familiar with, reading can become more fluid. This is largely because of the reader's ability to make accurate predictions regarding words because of his familiarity with the subject of the text (Rosenshine, 1995). Consequently, effective reading education needs to include opportunities for students to develop their background knowledge on a wide array of topics so as to increase the likelihood that they will be able to read more fluently (Dowhower, 1999). As background knowledge increases within the structures of the long-term memory, readers are able to neurologically process new

information more completely by connecting it to information already processed by the long-term memory.

Instructional opportunities for students need to include opportunities for students to process new information through extensive practice. In order for new information to be effectively stored in long-term memory, students need to be provided with ample opportunities to rehearse and review (Green, 1999). As the brain becomes familiarized with the new information, connections are able to be made that will enable easy retrieval of learned information. Teachers need to be mindful of this when presenting new information, as students need to be provided with extensive opportunities to practice in order to enable new learning to occur.

As students develop their reading skills, the focus can, at times, be too intensely directed toward correctly identifying words within text. One hundred percent accuracy regarding word identification should never be emphasized with a reader, especially a reader that is beginning to utilize meaning to direct word identification within the text (Samuels, 1979). Overemphasizing accuracy can impede fluency. When developing fluency among fledgling readers, teachers should encourage students to focus on speed instead of accuracy. These instructional practices would align with the automaticity model of reading.

Students require opportunities to practice their skills thoroughly and repeatedly. Opportunities to reread text allow students to build upon their skills more thoroughly. While teachers fear that students will quickly become bored rereading text, this concern is quickly alleviated as students begin to feel more successful in the reading process. One of the primary instructional techniques for improving fluency is to engage students in

rereading text that is at their instructional level. As students internalize the words in the selection, they are able to readily recognize those words. While initial comprehension may be poor, students generally are able to further develop their comprehension of the text through these repeated readings. Due to this extended practice, students are able to improve in their ability to read fluently (Chafouleas et. al., 2004). As a reader's brain is able to more proficiently identify and process text through extensive practice, more mental energy can be attuned to comprehension.

Promoting Fluent Reading in the Classroom

Fluent reading requires students to have extensive opportunities for practice (Nathan & Stanovich, 1991). Word recognition occurs more rapidly when readers have engaged in significant practice reading text. Extensive practice allows students to mentally process the text in a manner that promotes recall more efficiently. As more practice is promoted, readers are able to depend upon their mental resources regarding word identification. This enables readers to read more efficiently and fluently.

Enhancing fluency within the classroom is a formidable task for teachers. Students need to interact with text in a variety of ways to ensure that they are able to develop their skills as fluent readers. Teachers have reported that using short, highly predictable selections that are meant to be read aloud with expression, such as rhyming poetry, are ideal for fluency instruction (Rasinski, 2000). Repetitive text affords students opportunities to expose themselves to words several times through the reading. Predictable text enables students to rely on contextual meaning to make predictions regarding the appropriate words. Texts such as rhyming poetry enable students to build their skills while reading text at their instructional level.

Individual lessons taught by teachers can be accentuated by incorporation of brain-based research in the presentation. A successful presentation is one that is built upon the foundation of prior learning so as to promote students to connect new learning to the mental connections already present within the brain (Green, 1999). A teacher's presentation of new information must include extensive opportunities for students to practice the new learning. For reading instruction, students must be provided with ample opportunity to interact with authentic text that can provide them with an opportunity to further develop their skills. Additionally, teachers that utilize brain-based research by providing corrective and supportive feedback to direct success can enable students to promote their success more thoroughly. Teachers that present lessons in this manner are able to ensure that their students achieve a level of fluency regarding the new information presented.

Often students require opportunities to organize their knowledge effectively. Successful reading instruction guides students in making connections to their reading in a manner that enables the knowledge to move into the students' knowledge structures (Stahl, 2004). As readers practice actually reading, their ability to recognize words stems from their ability to recall information one was formerly exposed to. Responding to one's reading through the use of graphic organizers and other organizational tools can assist readers in mentally processing information appropriately (Ferrara, 2005). Students engaging in these ways to comprehend text are able to connect the reading to information previously processed and stored in their brain. Therefore, these more thoroughly developed neural connections enable one to be a more efficient reader. Consequently,

these various ways of processing information can greatly approve one's ability to read fluently.

Developing one's comprehension strategies is similarly impacted by brain-based research. Once students are able to read fluently, their ability to comprehend proficiently is significantly improved. As students identify words more rapidly, they are able to expend a significant portion of their mental capabilities to comprehending their text (Worthy & Broaddus, 2002). The brain will be able to more thoroughly interact with the text when fluent reading is exhibited. More thorough comprehension is able to occur because a reader's mental energy can be focused entirely on understanding the reading.

In order to develop students' abilities to efficiently comprehend and respond to the encountered text, teachers need to instruct students as to the manner in which effective comprehension occurs. This is a change from the way education formerly occurred. As previously discussed, classrooms were established in a very teacher-centered manner (Brown, 2003). Students were encouraged to merely respond to the questions posed by their teacher. This instructional method encouraged a rudimentary level of comprehension which did not encourage a thorough processing of the information present in the text.

As students become more proficient at comprehension, they are able to implement a number of strategies that automatically occur. Cognitive strategies are heuristics. Heuristic strategies are a guide that supports or facilitates the learners as they develop the internal procedures necessary for conducting higher level skills (Rosenshine, 1995). Heuristic strategies contrast to algorithms in that they are not direct procedures that merit

step-by-step instruction. Instead, the heuristic strategies serve as a broad overview for the underlying principles of the comprehension process.

Strategies for Building Comprehension

Cognitive strategies for comprehension can be difficult to clearly present to a learner. This is because the guiding principles of comprehension are largely done automatically by more competent readers. Although difficult to present in an instruction sequence, teachers need to include cognitive strategies for comprehension in the instruction. Initially, students need to be able to represent these abstract heuristics in concrete forms. One can do this by instructing students to use concrete representations, such as graphic organizers, to refer to in facilitating comprehension of a text. These concrete representations enable a reader to refer back to the information used to construct a concept map.

Corresponding to brain-based research, which states that the brain is able to process only a small amount of information, teachers need to break down tasks into smaller steps to facilitate understanding. Since the working memory is capable of processing only approximately five to seven pieces of information, students need to be presented with comprehension strategies in small stages. As students familiarize themselves with the foundational stages in the heuristics of comprehension, they are able to automatically apply the strategies. If the strategies are introduced in small steps, students are more likely to be able to automatically apply them to the reading process.

Modeling is an important component of instructing students for reading according to the cognitive strategies. Less proficient readers that struggle in reading subcomponents, like fluency or comprehension, need to be presented with a model that

they can imitate in becoming proficient readers. Teachers that read often to their classes are able to illustrate the proper pace that fluent readers use when they read. Modeling the think-aloud strategies that proficient readers use can also enable teachers to build their students' abilities to properly interact with the text. Guiding student practice through modeling provides students with opportunities to hear fluent reading and use it as an ideal for reading perfection.

The interactive process model of cognitive functioning states that competent readers are able to utilize contextual knowledge to accurately predict upcoming words. This cognitive processing model ascertains that one need not have lower-level proficiency skills in order to retain a proficiency at higher level processing skills. For reading, this implies that a reader is able to contextually make predictions and accurately identify words that one may not be able to identify in isolation. Students may be able to actually transcend their abilities for identifying isolated words when exposed to these words in context through reliance upon the meaning within a text passage (Fuchs et. al., 2001).

The development of reading proficiently requires one to utilize and rely upon the meaning of a passage to dictate one's identification of words. Fully comprehending passages can enable one to approach words that the reader would be unable to identify in isolation. Instead, the meaning of the passage would dictate a reader's ability to identify the appropriate words. These higher-level reading abilities would enable readers to transcend their own abilities and identify words appropriately. Readers that are reading at this level are able to rely extensively upon the meaning of the passage. This skill

contributes extensively to one's ability to read fluently and fully comprehend text (Fuchs et. al., 2001).

One's ability to comprehend text is a complex interplay of a number of strategies that must be efficiently combined in an effort to glean meaning from encountered text. Roth and Perfetti (1980) studied one's ability comprehend text as achieved at the word-level and discourse level of information sources. These researchers have acknowledged the way that word and sentence context is only partially understood in terms of the effects on one's ability to read fluently (Ehren, 2005). Instead, context is a tremendous resource for readers to utilize in identifying the words within text and applying the text's meaning to the entire process.

Furthering the research conducted by Roth and Perfetti (1980), Pearson and Spiro (1980) described schema as the knowledge that a reader has which is relevant to the encountered text (Ehren, 2005). One's schema is shaped by one's experiences, both educational and non-educational. A person's schema is shaped by things like his background knowledge, world knowledge, vocabulary understanding, and other factors. All of these factors combine in a way that enables a reader to thoroughly comprehend text. In fact, the enhanced comprehension that can occur based on utilizing text context will positively contribute to one's ability to read fluently.

One's background knowledge is an imperative component of the development of one's unique personal schema. The background knowledge serves as a filter for new information that enables one to process new information in light of previous knowledge. A heuristic for thinking about reading comprehension combines the reader, text, activity and context in creating an understanding of the meaning present in text. In order to fully

comprehend text, readers must possess an understanding that forms their background knowledge for encountered text. Without an appropriate level of background knowledge, students are unable to fully comprehend a passage. Unfortunately, students enter educational experiences with tremendously varied amounts of background knowledge gained from experiential knowledge or the knowledge gained from reading.

In addition to a reader's background knowledge is the student's world knowledge in fully understanding the text. This knowledge, called schemata, is the knowledge that a person utilizes to organize the world in a meaningful manner (Ehren, 2005). Similar to the students' background knowledge, their knowledge regarding the world is severely impacted by their experiences. These experiences have been foundational in developing their background knowledge and their schemata; therefore, they vary intensely from individual to individual. These variations regarding individuals' schemata can be powerfully influential on one's ability to read fluently and thoroughly comprehend. If one possesses limited knowledge regarding a subject matter, one may be unable to attain a thorough understanding due to limited knowledge regarding the text.

Accurate word identification requires students to possess knowledge regarding the identification of words and the ability to understand novel words. Walsh and Blewitt (2006) conducted a study among preschool students that were attempting to understand novel words encountered during read-aloud sessions. These students were read three storybooks repeatedly over four sessions. As frequency of the readings increased, these students were more likely to comprehend novel words than those students in a control group that did not experience the repeated readings. Therefore, student comprehension of text is promoted through frequent interactions with text.

Additionally, word identification is dependent upon one's ability to decode words accurately. One uses one's knowledge of words and word structures to accurately identify words. A study conducted by Gunn, Smallowski, Biglan, Black and Blair (2005) was geared at improving a student's ability to decode text. Students were instructed in word-level reading skills that could be conducted in order to more successfully identify words. These activities were combined in a manner that would promote student fluency in the reading process. Ultimately, the students improved in their abilities to comprehend text, read fluently, and understand novel vocabulary words. Such studies indicate that as students become more familiar with identifying words, they are able to progress in the entire reading process.

Comprehension is additionally impacted by an individual's ability to utilize the format of the text in the comprehension process. Comprehension is significantly impacted by one's ability to analyze text structure at the word, sentence and passage levels. Instantaneous application of appropriate strategies is essential to fully comprehending. Individuals that can use text structure as a resource for understanding can apply appropriate strategies that promote learning within the reading process.

As one reads, one needs to consciously analyze the text in light of the thought process that occurs as one reads. This metacognition allows one to make inferences about the text in a manner that contributes to the comprehension process (Ehren, 2005). Inferences are generated from a reader's ability to combine the details of the text to the knowledge that they already have, based on the reader's experiences. As one identifies words more fluidly, this process of metacognition can occur more rapidly, and the reading process becomes more enjoyable to the reader.

Final components of the comprehension process are the ability to summarize and reiterate the encountered text. A high level of cognitive processing is required to complete these tasks (Ehren, 2005). Therefore, readers must be able to read fluently enough to utilize the majority of their brain functioning to comprehend text. Additionally, readers must be able to concisely represent the text orally.

Impact of Contemporary Legislation in the United States

Recent legislative changes have severely impacted the way that students are instructed in the United States. Reading instruction has been particularly impacted by governmental involvement in the American school system. Governmental officials have ascertained the belief that if one follows the written rules, regulations and codes, then learning would occur (Langdon, 2004). This rudimentary approach to education has impacted the way that educators present information to their class. Students are engaging in programs that systematically instruct them how to read (Stahl, 2004). Consequently, the government's increased involvement in reading instruction has resulted in increased accountability regarding student performance. Some of these assessments result in one-minute probes that isolate areas of deficiency in student performance (Kamps, Wills, Greenwood, Thorne, Lazo, Crockett, Akers, & Swaggart, 2003).

Some school-related professionals remain skeptical regarding the effectiveness of curriculum-based measurements for assessing reading (R-CBM) (Hamilton & Shinn, 2003). Assessments of fluency are frequently timed readings of passages that measure how many words a student can read in one minute. Students are encouraged to read rapidly and may or may not be asked to restate their comprehension of the text. These students are assessed based on the number of correct words identified. Students may be

encouraged to overlook unfamiliar words so as to not contribute negatively to their performance. Consequently, automaticity in word recognition is the measured variable of these assessments.

The core of the argument against using such assessments is the perception that this form of assessment enables students to merely call words instead of fully comprehending the encountered text. The concern is that students are not developing their abilities to comprehend text in preparing for such timed assessments. Instead, they are merely identifying isolated words and not combining them to thoroughly comprehend the text. Although some teachers and other school-related professionals ascribe to the belief that this phenomenon of word callers is present in reading, there has been limited research to disprove whether or not teachers' perceptions regarding word callers are valid. Instead, teachers are often incorrect in their beliefs that students are only identifying words and not actually comprehending the text.

A study conducted by Hamilton and Shinn (2003) analyzed the appropriateness of teachers' claims that their students were reading rapidly and not comprehending their text. These students were referred to as "word callers." Word calling has been identified as occurring "when the words in the text are efficiently decoded into their spoken forms without comprehension of the passage taking place" (Hamilton & Shinn, 2003). Teachers tend to identify these students based on their judgments regarding a student's ability to appear to have understood or not understood the encountered text. Teachers believe that their intuition is valid enough to qualify these students as being word callers and not truly efficient readers focused entirely on meaning.

Upon conducting a study of the teacher-identified word callers, Hamilton and Shinn (2003) compared teacher perceptions to student performance on a variety of comprehension and oral reading assessments. Student performance on curriculum-based measurement of reading, an oral question-answering test called CBM-Maze and the passage comprehension subtest of the Woodcock Reading Mastery Test. Results on these tests indicated that students identified as "word callers" did not read at a rate equal to that of their peers that were deemed to be fluent readers. Therefore, these teachers were not entirely accurate in their intuition regarding word callers.

The phenomenon of word callers is in contradiction to the Automaticity Theory in that students are perceived as not comprehending the text they appear to be reading fluently. Once readers are able to automatically identify words, comprehension can occur because mental energy is diverted from word identification to actually comprehending and understanding the text (Samuels, 1979). The lack of validity regarding teachers' identification of word callers implies that students that are reading rapidly at a level appropriate for their chronological age are likely to be comprehending books that are similarly at that level. Therefore, word callers are not a viable contradiction to the Automaticity Theory. Once brain space is freed for comprehension through fluent reading, readers are able to comprehend text that is developmentally appropriate for their chronological age.

Improving reading fluency is a formidable task that must be addressed within every classroom, especially in early elementary school. The United States National Research Council's Committee for the Prevention of Reading Failure noted that effective reading, or the ability to generate meaning from text, depends strongly on one's ability to

develop word recognition accuracy and reading fluency (Chard et. al., 2002). Without success in these areas, reading abilities can be severely impacted. The Committee's claim is that students should frequently be assessed within the classroom environment for their ability to read fluently. Students that are frequently assessed within the classroom for their ability to read fluently are able to be identified by their teacher as requiring extra support in becoming a fluent reader. Students that illustrate through performances on assessments that they are experiencing difficulty should receive intervention that is uniquely tailored toward meeting their needs. Breaking the cycle of poor reading skills requires teachers to identify students with reading difficulties and provide remediation to them early in their academic career (Taylor & Short, 1992).

Application of Theories

Developing fluency requires that students have opportunities to hear fluent, expressive, and meaningful reading from others (Griffith & Rasinski, 2004). Parents, peers and teachers can provide excellent models for students to hear effective reading. Students tend to view fluent reading as merely reading rapidly. While speed is critical to comprehension, it is also important for developing readers to hear proficient readers read with prosody and expression. It is through following these models that students can develop their own skills more proficiently. Without being exposed to competent readers, it can be extremely difficult for readers to overcome their deficiencies and become proficient at reading.

Extensive support within literacy research has been provided regarding the use of repeated readings in promoting fluency. Repeated readings provide students with the practice required to become proficient readers (Koskinen, Bisson, Phillips, Creamer &

Baker, 1999). It affords them the opportunities to become familiarized with words in a way that promotes the encountered words to be recalled due to the frequency of repeated exposures. With extensive practice, students are able to become familiarized with more words, and the entire reading process can occur more fluidly.

Fluency instruction generally incorporates a period of time when the students are able to read a reading passage together chorally. When students read together chorally, they are able to develop their fluency by building upon the competency of their classmates. Words that students are unfamiliar with can be reinforced by their peers in that they are presented accurately in reading the words in unison. Additionally, students can develop their ability to have prosody and fluency through their own reading, through examples of their peers (Tindal & Marston, 1996). Populations that do not utilize English as their primary language can even benefit from this form of fluency instruction (McCauley & McCauley, 1992). Choral reading helps all readers develop their skills in becoming more fluent. Overall, students experiencing choral reading can experience gains in appreciation for literature, improved diction, increased interest in and enjoyment of reading, improved self-confidence, increased fluency, and expanded vocabulary (Welsch, 2006).

Instructional routines within classrooms that enable students to work together at developing fluent reading skills are essential (Griffith & Rasinski, 2004; Cambourne, 2002). Affording students the opportunities to read together enables them to build their skills with someone of a similar ability level. Teachers should attempt to pair together students according to a variety of factors. Placing students in groups that focus on similar interests, reading abilities, and reading rates can accentuate the student's ability to

succeed. Additionally, teachers need to be able to ensure that the students' personalities do not inhibit their abilities to work together in a socially compatible manner. Once effective groups are established students can work together in a manner that allows them to develop their skills through the modeling of their peers. These supportive relationships can be tremendously successful in developing one's reading skills.

Students that are learning to read must be able to incorporate a number of strategies that enable them to progress efficiently through a reading passage. Frequently, inexperienced readers will encounter words that are unfamiliar to them. Instead of inhibiting their reading process, students need to be made aware of various strategies that can be implemented at an appropriate time so as to not impede meaning (Samuels, 1979). Teachers that provide word attack strategies can enable their students to recognize words and appropriately approach unknown words effectively. Through constant reinforcement, teachers can ensure that students are able to automatically apply the appropriate strategies. Once strategies are able to be automatically applied to comprehending a text, the reading process is not impeded and one is able to appreciate the reading process.

Developing comprehension abilities is an essential component in the process of becoming a fluent reader. Students need to receive instruction as to the ways to engage in meaningful and critical discussions of the texts they read. Once students are instructed in the ways to process and discuss their reading, they need to be given ample opportunities to develop those skills. It is through this practice that these comprehension strategies become intrinsically part of the student's reading process (Griffith & Rasinski, 2004). Unless comprehension occurs automatically, readers will be limited in fully appreciating the reading process.

Overall, classrooms that encourage children to think need to be able to stimulate students in a manner that utilizes all of their intelligences. This requires teachers to present classroom experiences that are multi-faceted with complex instruction and resource-rich environments (Green, 1999). Teachers that utilize brain-based research are able to teach multi-sensory lessons that encourage the development of neural network connections in all students. Transforming from the "one teaching style fits all" to a sequence that individually provides for student needs is required in meeting the needs of diverse student populations (Brown, 2003). Therefore, it is critical that teachers maintain a flexible approach to their instructional practices that are defined by meeting the needs of individual learners.

Readers Theatre is an interpretive reading activity in which readers use their voices to bring the characters of a story to life through a theatre setting (Martinez, Roser, & Strecker, 1999). Use of this program has been identified as contributing to a student's ability to fluently read. This is largely because a student is encouraged to use intonation and expression, which contribute to a student's understanding and overall comprehension of the text (Griffith & Rasinski, 2004). Students are encouraged over a period of time to review their scripts in an effort to familiarize themselves with the story. Then students perform the play, using their voices to convey the meaning of the text. These repeated readings are essential in building fluency among student populations (Samuels, 1979). Overall, the readers theatre model can be extremely effective in promoting a student's ability to read fluently and comprehend more thoroughly (Worthy & Prater, 2002).

Since education, including literacy learning, can be extremely social in nature, it is essential to recognize the effects of others on one's ability to become a proficient

reader. Students are invariably influenced by others in their environments. It is absolutely imperative that they are able to view others that possess proficiency with literacy. The principle of social constructivism states that success and failure in literacy learning is a collaborative effort. School systems, communities, parents, teachers, and students all contribute to a student's ability to be successful in regard to literacy learning (Tracey & Young, 2002).

Parents play a critical role in a student's ability to succeed at school. Parents can play a particularly important role in developing their student's ability to read fluently and comprehend thoroughly (Tracey & Young, 2002). Once of the most important things that parents can do to promote positive reading abilities among their children is to commit to reading aloud to their child in a very regular manner (Rasinski & Fredericks, 1991). It is through these experiences that students are able to develop an enjoyment of reading. These home experiences may even be more significant in developing a student's love of literacy than the experiences of school (Metsala & Baker, 1996). Parents are a critical component of the literacy process and must not be overlooked by the school environment. Instead, parents should be actively included by the school. Teachers and schools need to work diligently to find ways for including and reinforcing parent involvement in school.

Oral reading fluency is a skill that is imperative to fluently comprehending. Individuals that enjoy the reading process are better able to generate meaning from text. Combining the various sub skills of the reading process appropriately is a requirement in achieving the ability to read fluently. Once readers are reading at an appropriate pace, they can fully engage mentally in comprehending encountered text. Therefore, enjoyment of the reading process is possible at that point.

Chapter 3

Methodology

The General Perspective

As a quantitative study, the research represented here seeks to determine the correlational strength between two variables. The variables being analyzed were the students reading fluency and reading comprehension abilities. Fluency scores were generated for each student using the Oral Reading Fluency testing component of Dynamic Indicators of Basic Early Literacy Skills (DIBELS). The students' comprehension abilities were assessed using the TerraNova assessment generated by McGraw-Hill Publishing Company. These scores were than statistically compared to determine the strength of the correlation.

Null Hypotheses

1. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three at a private, Catholic elementary school in Elmira, New York.
2. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grade two at a private, Catholic elementary school in Elmira, New York.
3. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grade three at a private, Catholic elementary school in Elmira, New York.
4. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three, at a private, Catholic

elementary school in Elmira, New York, that are proficient in oral reading fluency.

5. There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three, at a private, Catholic elementary school in Elmira, New York, that are not proficient in oral reading fluency.
6. There is not a relationship between oral reading fluency and reading comprehension scores for students in grades two and three at a private, Catholic elementary school in Elmira, New York.

The Research Context

The study took place in a private, primary school in Elmira, New York. This school is a private school which is under the jurisdiction of the Diocese of Rochester in New York State (Diocese of Rochester, 2006). The Diocese, as the governing body, provides guidance regarding curriculum, particularly the religious studies to be infused in the education system. Additionally, the Diocese provides guidance for the private Catholic elementary school in aligning with the requirements of education as outlined by New York State.

This school, as a private, Catholic school, is under the ultimate governing body of the Diocese of Rochester. Additionally, a local school board directs the various occurrences of the school community. The board frequently changes its membership based on parental interest; therefore the participants are unable to be listed. These board members, however, are frequently involved in a variety of committees involved in governing the school.

The direct management of this elementary school is conducted by the principal of the school. The principal of this school has been involved in the school's community for seven years. Her initial experience at the school was as a teacher. For the past two years she has fulfilled the role of principal for the school. The principal is directly responsible for overseeing the personnel of the school. The staff is comprised of twenty-four individuals. Of these individuals, ten are teachers that have met the requirements for certification as outlined by New York State. Additionally, there are three classroom aides that work directly within the classroom. The remaining eleven individuals are responsible for fulfilling clerical and maintenance responsibilities throughout the school. The principal is directly responsible for the hiring and direct supervision of these individuals.

The student body at this private, Catholic elementary school is comprised of 195 students in grades Pre-Kindergarten through Third grade. These students are ethnically predominantly Caucasian. Within the school community, however, there are five Asian students, seven African-American, and one Hispanic student. Among the student body there are nineteen students identified as having special needs. Approximately one half of these special needs students possess an Individual Education Plan (IEP) while the remaining students possess 504 Accommodation Plans. The students with IEPs receive their services at a local public elementary school within the Elmira City School District. All other academic services are provided within the school's environment.

Students attending this elementary school live in a variety of communities with close proximity to the school. The majority of the students reside in the community of Elmira, New York. However, small percentages of students also come from other local communities. Some of the communities represented in the school population are

Horseheads, New York, and Elmira Heights, New York. Additionally, students attend from Northern Tioga, Pennsylvania.

Students within this school community are assessed according to standards outlined by the New York State Department of Education in a manner consistent with the public schools throughout the state. The New York State Department of Education generates a "School Report Card" for all of the schools within the state as a tool for comparison of academic achievement within a school as compared to the standards outlined by the New York State Department of Education (New York State Department of Education, 2005). This report card is generated for Language Arts and Mathematics at Grade 4. Students are graded according to their achievement levels. Levels one and two represent students "needing extra help (Level 2)" or "have serious academic deficiencies (Level 1)." Levels three and four designate those students that "meet or exceed state standards." These levels allow schools to efficiently be assessed according to their abilities to achieve the standards outlined by New York State.

The students at this school predominantly excel in their performances on state assessments. Ninety-one percent of the students achieved levels three and four on the Language Arts assessment issued in Grade 4. This compares to local districts including the Elmira City School District, the Elmira Heights School District, Horseheads School District and Corning/Painted Post School District which average 58.75% of their students achieving levels three and four (New York State Education Department, 2005). Similarly, the students at this private, Catholic elementary school exceed the New York State average of performance. The average for New York State students is approximately 70% of students achieving levels three and four on the Language Arts assessment issued in

Grade 4 (New York State Department of Education, 2005). The students at a private, Catholic elementary school exceed state expectations regarding their abilities to perform on the Language Arts assessment at a level that is congruent with the state standards.

Academic testing in New York State is also conducted for mathematics proficiency as outlined by the New York State standards. Similarly to the performance on the Language Arts assessments, students at this school perform exceedingly well on the assessment issued in Grade 4. Ninety-six percent of the students at this school perform at the levels three and four. This compares to local districts including the Elmira City School District, the Elmira Heights School District, Horseheads School District and Corning/Painted Post School District which average 81.5% of their students achieving levels three and four. Similarly, the students at this school exceed the New York State average of performance. The average for New York State students is approximately 87% of students achieving levels three and four on the Language Arts assessment issued in Grade 4 (New York State Department of Education, 2005). The students at this school exceed state expectations in their abilities to perform on the mathematics assessment at a level that is synonymous with the state standards.

The school's affiliation with the Elmira City School District was furthered upon the district becoming a recipient of the Reading First (New York State Department of Education, 2004). Reading First is a federally funded program designed to financially assist districts in implementing research-based reading programs for students in kindergarten through third grades (New York State Department of Education, 2003). The Elmira City School District received a total of $1,086,221 that was to be utilized to enhance reading programming at five elementary schools within the district, including

this private, Catholic elementary school. As a result of this funding source, the school was able to initiate a number of changes that allowed them to align with the guidelines of the Reading First program.

The Reading First initiative requires districts that are funded through the program to comply with instructional and programmatic guidelines. One such guideline is that Reading First schools are required to ascribe to a core reading program. These programs can be individually purchased but must be evaluated favorably under Reading First guidelines. The most significant requirement for a core reading program is that it effectively presents the five components of literacy: phonemic awareness, phonics, vocabulary, fluency and comprehension (New York State Department of Education, 2006). In an effort to fulfill this requirement of Reading First, this private, Catholic elementary school purchased the Scott Foresman Reading Series.

Testing requirements are also determined by the Reading First initiative as schools must align to their requirements (New York State Department of Education, 2006). The Reading First initiative requires districts to conduct frequently administered, valid, reliable, and fair assessments designed to monitor student progress throughout the academic year. In accordance with the Elmira City School District, this school utilizes the DIBELS assessment and the TerraNova assessment. These assessment tools provide opportunities to screen students, progress monitor their performance throughout the year, conduct diagnostic assessment, and complete an outcome assessment.

Parent involvement is not merely a benefit of this school but a requirement. Parents are required to participate in a fund raising obligation. They must contribute $400 of fund raising per child. This is a stipulation of attendance that is in addition to the

tuition that must be paid. Additionally, the principal cites the parents as being very involved in their child's education. Classroom volunteers are depended upon in that they allow teachers and office personnel to take breaks. Weekly, the parents also organize special lunches for the students. Although this volunteering is not required, it is something that the parents are frequently involved in. Consequently, the school depends upon these services.

The Research Participants

Number of participants	68
Student Grade	
Second Grade	38
Third Grade	30
Ethnic Identity	
Caucasian	56
Native American	0
Black	7
Hispanic	1
Asian	5
gender	
male	47
female	21

Instruments Used in Data Collection

Reading proficiency is assessed using assessments mandated by the Reading First Grant at this private, Catholic elementary school. The two assessments utilized to assess reading performance are the oral reading fluency subtest of the DIBELS assessment and the TerraNova Basic Multiple Assessment produced by McGraw Hill Publishing Company. The oral reading fluency subtest of the DIBELS assessment is produced by the University of Oregon. Both assessments are given during the course of the academic

school year and are used by school districts to assess the proficiency of students in the various components of reading.

The oral reading fluency subtest of the DIBELS assessment is a test that is given individually to students. Students are tested according to previously established benchmarks three times during the academic school year. These tests are standardized and individually administered (Institute for the Development of Educational Achievement, 2002). This assessment tool is designed to identify students in need of more academic support. Additionally, teachers utilize this tool to monitor student progress toward instructional goals.

The TerraNova Basic Multiple Assessment is a standardized test produced by the McGraw-Hill publisher to offer a variety of batteries to cohesively assess reading, specifically reading comprehension. This assessment relies upon a combination of selected-response and constructed-response questions. The TerraNova Basic Multiple Assessment is designed to determine student proficiency regarding the comprehension of text.

Procedures

As part of their assessment framework, the teachers at this private, Catholic elementary school issue the oral reading fluency subtest of the DIBELS assessment in conjunction with the TerraNova Basic Multiple Assessment of comprehension. Both tests follow unique guidelines for issuing them to students. For instance, the TerraNova Basic Multiple Assessment is generally given to students within a whole-group setting. Contrastingly, the DIBELS assessments are given to students individually. These tests

provide specific guidelines for delivering the assessments as this is essential in maintaining their reliability and standardization.

The DIBELS oral reading fluency subtest is designed to assess the number of words read correctly in one minute. Students are asked to read a passage continually for a period of one minute. Accurate time is maintained by the assessor through the use of a stop watch. A student's score is generated by counting the number of words that the student reads accurately. Words omitted or substituted are not recorded in the overall score. Additionally, words for which the reader hesitates for more than three seconds are also coded as errors and do not contribute to their overall score. Students may, however, self-correct mistakes and, therefore, improve their overall score. At the conclusion of the minute, the assessor records the students score for the DIBELS oral reading fluency subtest.

The TerraNova Basic Multiple Assessments for comprehension is given as a whole group measure. Students are given subsections that are individually timed. Students are expected to work individually and may work until the overseer directs them to stop. This test may be given over the course of time. This entails subsections of the test being given on different days. Students unable to attend the test for attendance reasons must be provided an alternate time to complete their test.

Scoring of these tests occur in different manners. The DIBELS oral reading fluency subtest is individually scored by the assessor. The TerraNova Basic Multiple Assessments are commercially scored by an external agency.

Data Analysis

The data from this private, Catholic elementary school was generated by their teachers and a formal scoring agency. The scores for the DIBELS oral reading fluency subtest was generated by the individual student's classroom teacher, while the TerraNova Basic Multiple Assessments scores were generated from the scoring agency. The goal of this study is to determine the existence of a correlation between oral reading fluency and comprehension among the second and third grade students at this school in Elmira, New York.

Determining a statistical relationship between the oral reading fluency scores generated from the DIBELS oral reading fluency subtest and the TerraNova Basic Multiple Assessments can by determined using a statistical analysis. The Pearson's r statistical test will generate a series of tables that will define the statistical relationship between the two factors. Each of the hypotheses will be tested using this format. The relationships between the two independent tests can be determined using this information.

Summary of the Methodology

This chapter has explained the methods utilized in this quantitative study of student performance at this school in Elmira, New York. The relationship between oral reading fluency and comprehension was determined using statistical analysis. The next chapter presents the results obtained with those methods.

Chapter 4

The Results of the Study

As stated in Chapter one, the study reported here examined in detail the relationship between oral reading fluency and comprehension. This chapter is organized in terms of the specific hypotheses that were explored through this study. The relationship between oral reading fluency and comprehension were explored for the students in grades two and three at a private, Catholic elementary school in Elmira, New York.

Hypothesis #1: There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three at a private, Catholic elementary school in Elmira, New York.

The relationship between oral reading fluency scores and reading comprehension scores for students in grades two at a private, Catholic elementary school in Elmira, New York, is deemed statistically positive. The reported Pearson correlation coefficient is .410 (p=0.011), indicating a strong positive correlation. This coefficient can be squared to produce the coefficient of determination, in this case, $(.410)^2 = .1681$, or 17%. Therefore, approximately 17% of the variance in oral reading fluency can be attributed to comprehension, or vice versa (See Table 1 and Graph 1).

The relationship between oral reading fluency scores and reading comprehension scores for students in grades three at a private, Catholic elementary school in Elmira, New York, is deemed statistically positive. The reported Pearson correlation coefficient is .770 (0.000), indicating a very strong positive correlation (See Table 2). This coefficient can be squared to produce the coefficient of determination, in this case,

$(.770)^2 = .5929$, or 59%. Therefore, approximately 59% of the variance in oral reading fluency can be attributed to comprehension, or vice versa. Thus, the null hypothesis was rejected.

Hypothesis #2: There is no relationship between oral reading fluency scores and reading comprehension scores for students in grade two at a private, Catholic elementary school in Elmira, New York.

The relationship between oral reading fluency scores and reading comprehension scores for students in grades two at a private, Catholic elementary school in Elmira, New York, is deemed statistically positive. The reported Pearson correlation coefficient is .410 (p=0.011), indicating a strong positive correlation. This coefficient can be squared to produce the coefficient of determination, in this case, $(.410)^2 = .1681$, or 17%. Therefore, approximately 17% of the variance in oral reading fluency can be attributed to comprehension, or vice versa (See Table 1 and Graph 1). Thus, the null hypothesis was rejected.

Hypothesis #3: There is no relationship between oral reading fluency scores and reading comprehension scores for students in grade three at a private, Catholic elementary school in Elmira, New York.

The relationship between oral reading fluency scores and reading comprehension scores for students in grades three at a private, Catholic elementary school in Elmira, New York, is deemed statistically positive. The reported Pearson correlation coefficient is .770 (p=0.000), indicating a very strong positive correlation (See Table 2 and Graph 2). This coefficient can be squared to produce the coefficient of determination, in this case, $(.770)^2 = .5929$, or 59%. Therefore, approximately 59% of the variance in oral reading

fluency can be attributed to comprehension, or vice versa. Thus, the null hypothesis was rejected.

Hypothesis #4: There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three, at a private, Catholic elementary school in Elmira, New York, that are proficient in oral reading fluency.

Pre-established benchmark scores are outlined by the publisher of the DIBELS assessment tool for grades kindergarten through fifth grade. The benchmark score for students in second grade for the DIBELS oral reading fluency subtest is ninety words read per minute (University of Oregon Center on Teaching and Learning, 2006). The benchmark score for students in third grade for the DIBELS oral reading fluency subtest is 110 words read per minute. Therefore, students deemed proficient in oral reading fluency during second grade would need to read at least ninety words per minute. Proficiency in third grade would be determined by the student's ability to read at least 110 words per minute. These benchmark goals provide significant guidance regarding the expectation for student performance.

The relationship between oral reading fluency scores and reading comprehension scores for students deemed proficient in oral reading fluency in grade two at a private, Catholic elementary school in Elmira, New York, is deemed statistically negligible. The reported Pearson correlation coefficient is .197 ($p=0.314$), indicating a negligible correlation (See Table 3 and Graph 3). This coefficient can be squared to produce the coefficient of determination, in this case, $(.197)^2 = .039$, or 3.9%. Therefore, approximately 3.9% of the variance in oral reading fluency can be attributed to comprehension, or vice versa.

The relationship between oral reading fluency scores and reading comprehension scores for students deemed proficient in oral reading fluency in grade three at a private, Catholic elementary school in Elmira, New York, is deemed statistically to be a very strong positive relationship. The reported Pearson correlation coefficient is .670 (0.000), indicating a very strong positive correlation (See Table 4 and Graph 4). This coefficient can be squared to produce the coefficient of determination, in this case, $(.670)^2 = .4489$, or 45%. Therefore, approximately 45% of the variance in oral reading fluency can be attributed to comprehension, or vice versa. Thus, the null hypothesis was rejected.

Hypothesis #5: There is no relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three, at a private, Catholic elementary school in Elmira, New York, that are not proficient in oral reading fluency.

Pre-established benchmark scores are outlined by the publisher of the DIBELS assessment tool for grades kindergarten through fifth grade. The benchmark score for students in second grade for the DIBELS oral reading fluency subtest is ninety words read per minute (University of Oregon Center on Teaching and Learning, 2006). The benchmark score for students in third grade for the DIBELS oral reading fluency subtest is 110 words read per minute. Therefore, students deemed not proficient in oral reading fluency during second grade would need less than ninety words per minute. A lack of proficiency in third grade would be determined by the student's ability to read less than 110 words per minute. These benchmark goals provide significant guidance regarding the expectation for student performance.

The relationship between oral reading fluency scores and reading comprehension scores for students not deemed proficient in oral reading fluency in grade two a private,

Catholic elementary school in Elmira, New York, is deemed statistically negligible. The reported Pearson correlation coefficient is .061 (p=868), indicating a negligible correlation (See Table 5 and Graph 5). This coefficient can be squared to produce the coefficient of determination, in this case, $(.061)^2 = .0037$, or .4%. Therefore, approximately .4% of the variance in oral reading fluency can be attributed to comprehension, or vice versa.

The relationship between oral reading fluency scores and reading comprehension scores for students deemed not proficient in oral reading fluency in grade three at a private, Catholic elementary school in Elmira, New York, is deemed statistically to be a very strong positive relationship. The reported Pearson correlation coefficient is .947 (p=0.14), indicating a very strong positive correlation (See Table 6 and Graph 6). This coefficient can be squared to produce the coefficient of determination, in this case, $(.947)^2 = .8968$, or 90%. Therefore, approximately 90% of the variance in oral reading fluency can be attributed to comprehension, or vice versa. Thus, the null hypothesis was rejected.

Hypothesis #6: There is not a relationship between oral reading fluency scores and reading comprehension scores for students in grades two and three at a private, Catholic elementary school in Elmira, New York.

The relationship between oral reading fluency scores and reading comprehension scores for students in grades two at a private, Catholic elementary school in Elmira, New York, is deemed statistically positive. The reported Pearson correlation coefficient is .410 (p=0.011), indicating a strong positive correlation. This coefficient can be squared to produce the coefficient of determination, in this case, $(.410)^2 = .1628$, or 16%. Therefore,

approximately 16% of the variance in oral reading fluency can be attributed to comprehension, or vice versa (See Table 1 and Graph 1). This hypothesis was incorrect due to the fact that there is a statistical relationship between the two variables.

The relationship between oral reading fluency scores and reading comprehension scores for students in grades three at a private, Catholic elementary school in Elmira, New York, is deemed statistically positive. The reported Pearson correlation coefficient is .770 ($p=0.000$), indicating a very strong positive correlation (See Table 2 and Graph 2). This coefficient can be squared to produce the coefficient of determination, in this case, $(.770)^2 = .5929$, or 59%. Therefore, approximately 59% of the variance in oral reading fluency can be attributed to comprehension, or vice versa. This hypothesis was incorrect due to the fact that there is a statistical relationship between the two variables. Thus, the null hypothesis may be accepted.

Table 1: Correlation between oral reading fluency and comprehension for second grade

Correlations

		ORFScore	TerraNova ScaleScore
ORFScore	Pearson Correlation	1	.410*
	Sig. (2-tailed)		.011
	Sum of Squares and Cross-products	41748.000	14314.000
	Covariance	1128.324	386.865
	N	38	38
TerraNovaScaleScore	Pearson Correlation	.410*	1
	Sig. (2-tailed)	.011	
	Sum of Squares and Cross-products	14314.000	29152.342
	Covariance	386.865	787.901
	N	38	38

*. Correlation is significant at the 0.05 level (2-tailed).

Graph 1: Correlation between oral reading fluency and comprehension for second grade

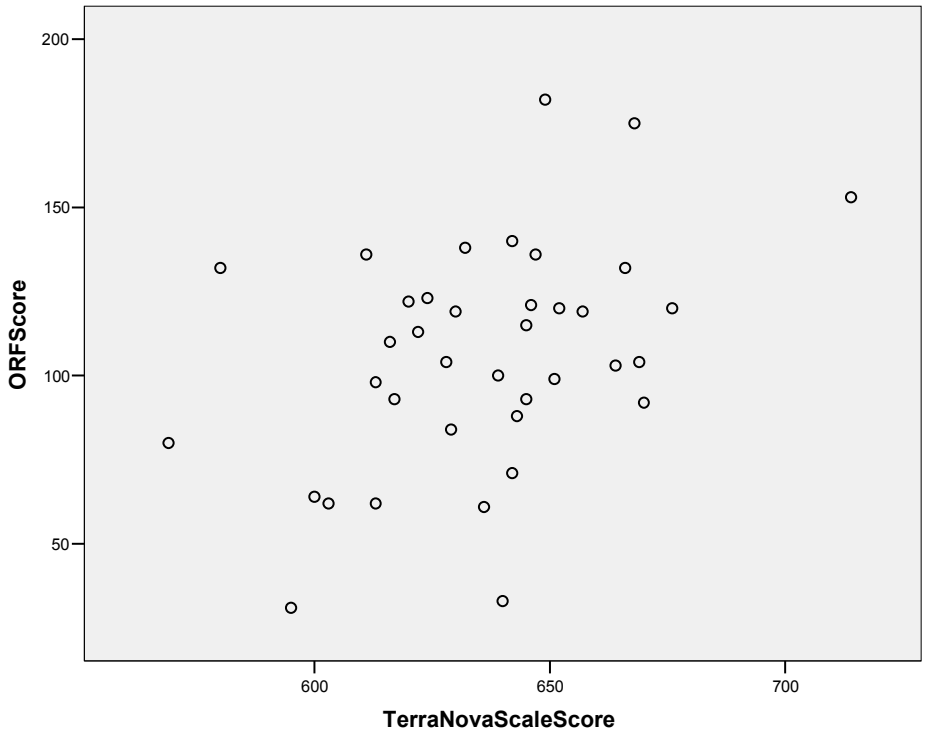


Table 2: Correlation between oral reading fluency and comprehension for third grade

Correlations

		DIBELSScores	TerraNova Scores
DIBELSScores	Pearson Correlation	1	.770**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	27540.300	17507.700
	Covariance	949.666	603.714
	N	30	30
TerraNovaScores	Pearson Correlation	.770**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	17507.700	18766.967
	Covariance	603.714	647.137
	N	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

Graph 2: Correlation between oral reading fluency and comprehension for third grade

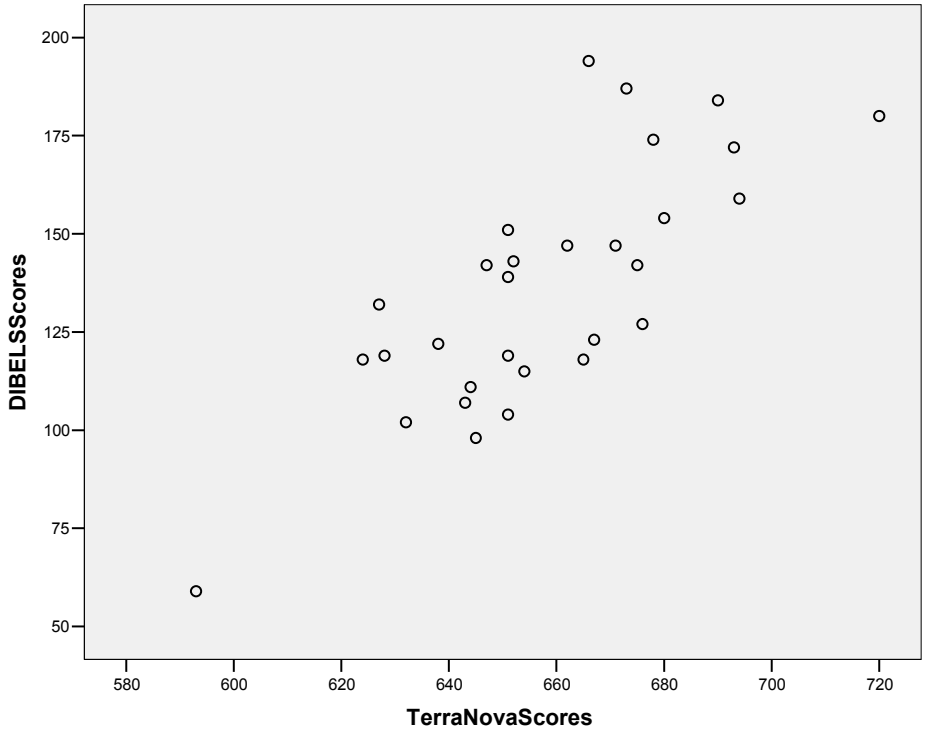


Table 3: Correlations for students that are proficient in ORF in second grade

Correlations

		ORFScore	TerraNova ScaleScore
ORFScore	Pearson Correlation	1	.197
	Sig. (2-tailed)		.314
	Sum of Squares and Cross-products	14003.429	3193.571
	Covariance	518.646	118.280
	N	28	28
TerraNovaScaleScore	Pearson Correlation	.197	1
	Sig. (2-tailed)	.314	
	Sum of Squares and Cross-products	3193.571	18696.679
	Covariance	118.280	692.470
	N	28	28

Graph 3: Correlations for students that are proficient in ORF in second grade

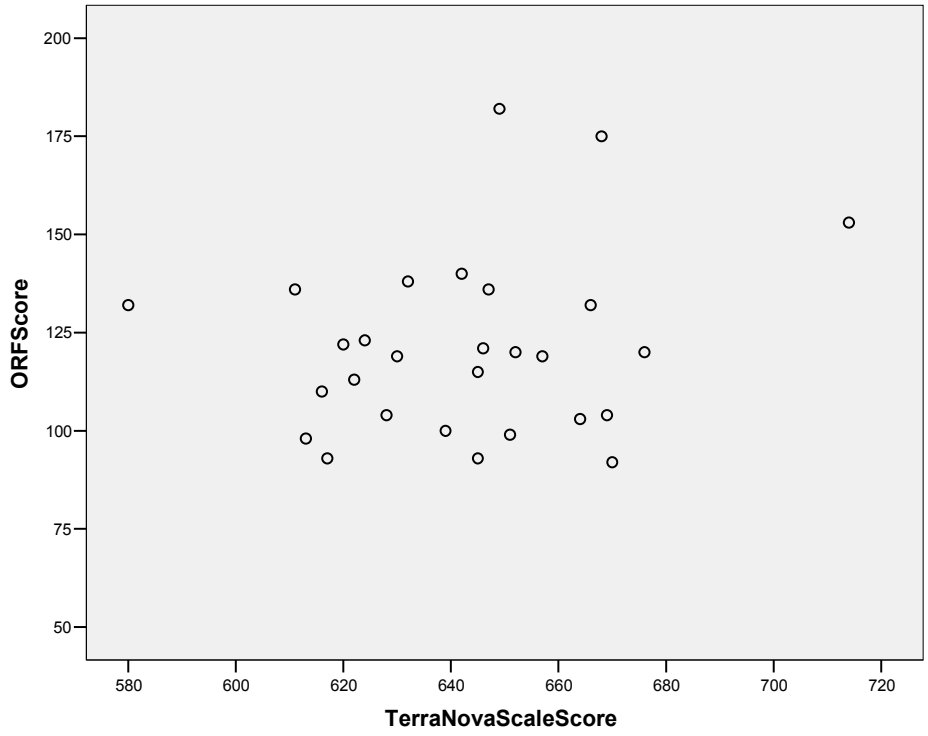


Table 4: Correlations for students that are in third grade and proficient in oral reading fluency

Correlations

		DIBELSScores	TerraNova Scores
DIBELSScores	Pearson Correlation	1	.670**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	15230.560	9353.480
	Covariance	634.607	389.728
	N	25	25
TerraNovaScores	Pearson Correlation	.670**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	9353.480	12777.840
	Covariance	389.728	532.410
	N	25	25

**. Correlation is significant at the 0.01 level (2-tailed).

Graph 4: Correlations for students that are in third grade and proficient in oral reading fluency

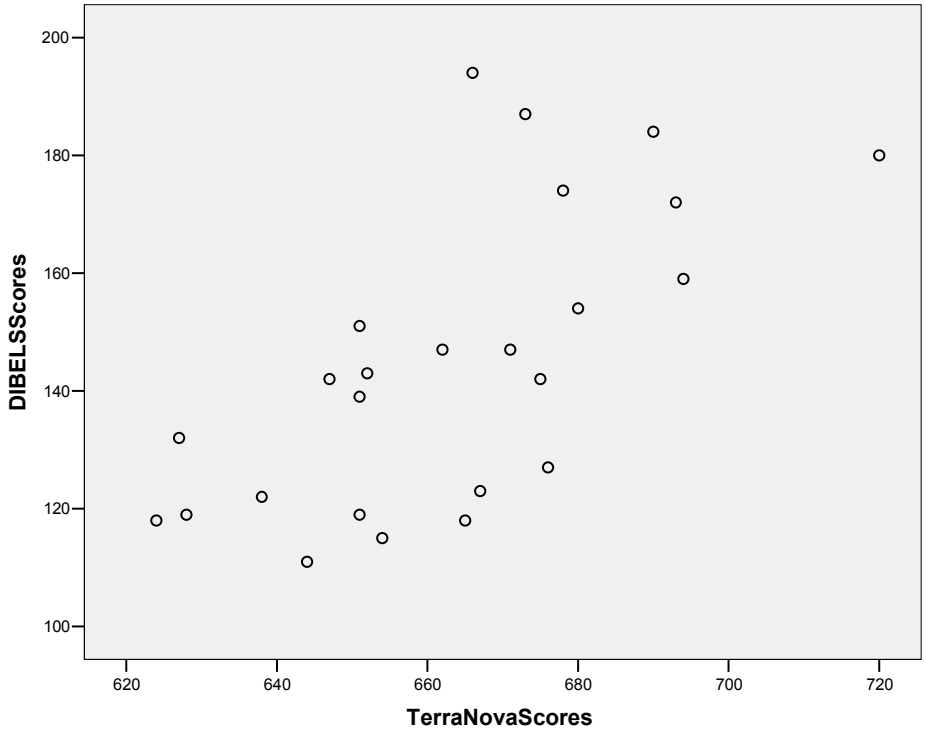


Table 5: Correlations for students that are not proficient in ORF in second grade

Correlations

		ORFScore	TerraNova ScaleScore
ORFScore	Pearson Correlation	1	.061
	Sig. (2-tailed)		.868
	Sum of Squares and Cross-products	3346.400	263.000
	Covariance	371.822	29.222
	N	10	10
TerraNovaScaleScore	Pearson Correlation	.061	1
	Sig. (2-tailed)	.868	
	Sum of Squares and Cross-products	263.000	5624.000
	Covariance	29.222	624.889
	N	10	10

Graph 5: Correlations for students that are not proficient in ORF in second grade

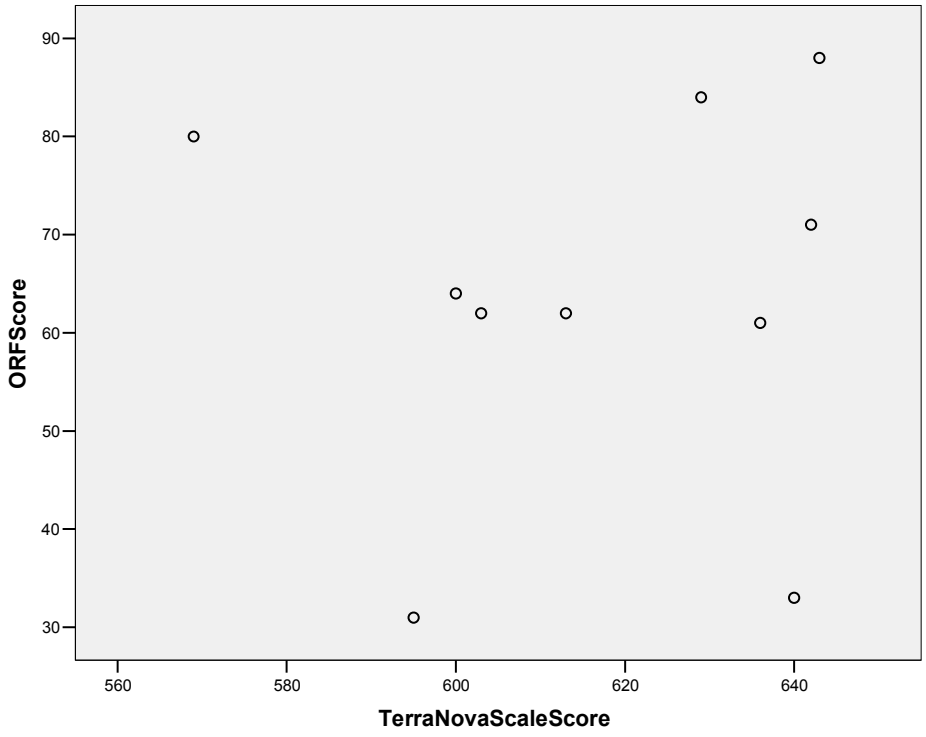


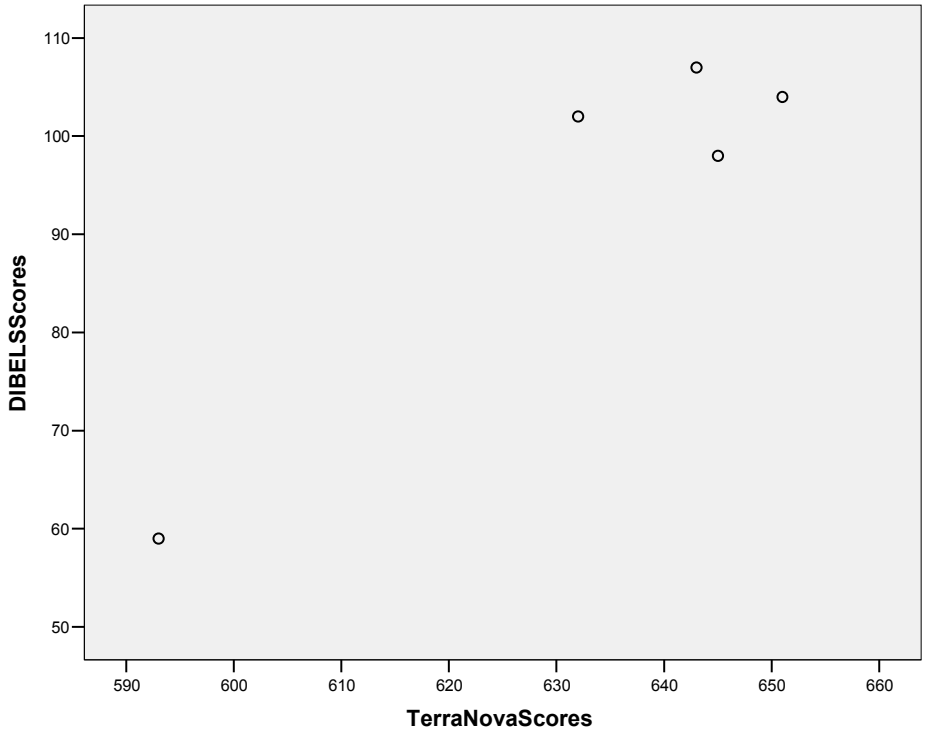
Table 6: Correlations for students that are not proficient at ORF in third grade

Correlations

		DIBELSScores	TerraNova Scores
DIBELSScores	Pearson Correlation	1	.947*
	Sig. (2-tailed)		.014
	Sum of Squares and Cross-products	1574.000	1750.000
	Covariance	393.500	437.500
	N	5	5
TerraNovaScores	Pearson Correlation	.947*	1
	Sig. (2-tailed)	.014	
	Sum of Squares and Cross-products	1750.000	2168.800
	Covariance	437.500	542.200
	N	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

Graph 6: Correlations for students that are not proficient at ORF in third grade



Chapter 5

Summary and Discussion

Summary

Introduction

As an aid to the reader, this final chapter of the dissertation restates the research problem and reviews the major methods used in this study. The focus of this study was the relationship between oral reading fluency and comprehension among the student population at this school. The major sections of this chapter summarize the results and discuss their implications.

Oral reading fluency is deemed an integral component of becoming a successful reader capable of comprehending encountered text. The students at this school were studied to determine the comparative relationship between oral reading fluency and comprehension among their population. This study involved evaluating the students' scores using two assessment tools. The students' oral reading fluency was assessed using the oral reading fluency subtest of the Dynamic Indicators of Basic Early Skills (DIBELS). The students' comprehension was assessed using the TerraNova Basic Multiple Assessment, commercially produced by the McGraw-Hill Publishing Company. The students in grades two and three were found to have a strong, positive relationship regarding the correlation between oral reading fluency and comprehension using these measures.

Statement of the problem

The relationship between oral reading fluency and comprehension is critical in the development of successful readers (Chafouleas et. al., 2001). The degree to which the

two factors correlate is the focus of this study. Therefore, if students are found to be proficient in oral reading fluency, the study would indicate whether or not they were also proficient in comprehension. Additionally, the scores of students that were not proficient in oral reading fluency would be analyzed in terms of their proficiency in reading comprehension.

Review of the Methodology

The students at a private, Catholic elementary school in Elmira, New York were required to participate in assessment procedures that individually assessed oral reading fluency and reading comprehension. The oral reading fluency subtest of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessed the students' reading rate in terms of words read per minute (Institute for Development of Educational Achievement, 2002). Additionally, the TerraNova Basic Multiple Assessment, published by the McGraw-Hill publishing company, was used to measure a student's comprehension of text (CTB/McGraw-Hill, 2006).

The oral reading fluency subtest of the DIBELS assessment is designed to determine the number of words a student can read per minute. The students are asked to read three grade-level appropriate passages. Each passage is timed for a period of one minute. The score that is recorded for the student is his or her median score.

The TerraNova Basic Multiple Assessment is an assessment that measures student ability to comprehend text. This commercially produced assessment tool is given to the students according to the test's directions. Students are individually scored for their abilities to comprehend and process text. These scores were then used to determine a student's effectiveness in comprehension.

Each student in this study was issued a score for both the oral reading fluency subtest of the DIBELS assessment and the TerraNova Basic Multiple Assessment. The students' scores were assessed to determine the existence of a statistical relationship between the two variables. The statistical procedure used to determine a correlation was the Pearson Product Moment Correlation test.

Summary of the Results

The oral reading fluency and comprehension scores for the students at this school were assessed to determine whether or not a statistical relationship existed between the two factors. A strong statistical relationship was determined to exist between student scores in a number of subgroups. The oral reading fluency and comprehension scores for the students in grades two indicated a strong positive correlation. The oral reading fluency and comprehension scores for the students in grade three indicated a very strong positive correlation. Students in third grade that were proficient in oral reading fluency exhibited a very strong positive correlation when their oral reading fluency and comprehension scores were compared. Correspondingly, students in third grade that were not proficient in oral reading fluency exhibited a very strong positive correlation when their oral reading fluency and comprehension scores were compared.

While some groups illustrated very strong positive correlations between their oral reading fluency and comprehension scores, some subgroups tested were not found to be as statistically significant. The analysis of the students in second grade deemed proficient in oral reading fluency exhibited a statistically negligible relationship when their oral reading fluency and comprehension scores were compared. Similarly, students in second

grade not deemed proficient in oral reading fluency exhibited a statistically negligible relationship when their oral reading fluency and comprehension scores were compared.

Discussion of the Results

The existence of a positive correlation among students in grades two and three at this school is synonymous with the research expectations (Hintze et. al., 1998). Students that read rapidly can comprehend more thoroughly. This is largely because their mental space is freed in a manner that enables them to devote more cognitive energy toward comprehending the text (Nathan & Stanovich, 1991; Rasinski, 2000). Therefore, there is a reciprocal relationship between oral reading fluency and comprehension in that improvement in one area promotes the other area.

While this relationship was found for the students in grades two and three, the results among some of the tested subgroups were not synonymous with the expectations of the research. The relationship between the students in second grade that were deemed proficient in oral reading fluency and those students not deemed proficient in oral reading fluency was found to be statistically negligible. This illustrates that these subgroups exhibit oral reading fluency rates and comprehension that do not relate in a statistically significant manner.

Discussion

Relationship of the Current Study to Previous Research

Fluent reading is the accurate, automatic reading of encountered text. Developing fluency is a formidable task that requires one to synthesize a number of reading skills deemed to be essential in effectively (Naslund & Smolkin, 1997). Once one achieves the ability to read fluently, one possesses the ability to enjoy the reading process (McCauley

& McCauley, 1992). This is due to the thorough comprehension that can occur as a result of fluent reading. This enjoyment causes one to continue to engage in the reading process and therefore, improve one's reading skills.

Cognitive psychologists recognize the importance of fluent reading in thoroughly comprehending encountered text. Significant mental attention is required to thoroughly comprehend text. When word recognition is not automatic, readers must devote a significant amount of mental energy to merely identifying the words. Therefore, as one becomes a more fluent reader, one is able to devote more attention to comprehension. Thereby, one is able consequently enjoy the reading process. As readers continue to devote more time to practicing reading, they are able to improve their skills. This improvement is caused by the Matthew Effect which states that in a similar manner to the biblical passage of "the rich get richer," students that frequently practice reading will subsequently improve (Scarborough & Parker, 2003)

The current study conducted a statistical measure in determining the existence of a correlational relationship between oral reading fluency and comprehension. The expected relationship is that students that read fluently at grade level will also thoroughly comprehend. Correspondingly, students that are unable to read fluently at their grade level will also be unable to thoroughly comprehend. This study tested this hypothesis for the population at this school.

In a manner that is synonymous with the hypothesis, the students at a private, Catholic elementary school in Elmira, New York were found to have a correlational relationship between oral reading fluency and comprehension. Students that were fluently reading at grade level were correspondingly able to comprehend. Consequently, the

correlational relationship was upheld for students not reading fluently. These students were also found to be unable to proficiently comprehend text. The measures utilized in establishing this relationship were the oral reading fluency subtest of the DIBELS assessment and the TerraNova Basic Multiple Assessment.

Explanation of Unanticipated Findings

While the majority of the findings from this study were found to validate research expectations, some results were not consistent with research expectations. It was determined that the students in second grade that were found to be proficient at oral reading fluency exhibited a negligible correlation between their oral reading fluency scores and their comprehension scores. Additionally, the students not proficient in oral reading fluency exhibited a negligible correlation between their oral reading fluency scores and their comprehension scores. These findings were not consistent with the research expectations which postulated that a positive relationship should exist between a student's oral reading fluency scores and their comprehension scores (Fuchs et. al., 2001; Stayter & Allington, 1991).

The fact that these subgroups did not show the expected correlational relationship could be attributed to a number of factors. Within research a phenomenon has been identified among readers. These readers are identified as "word callers." Word callers are individuals that efficiently decode words without comprehending the passage (Hamilton & Shinn, 2003). Although word callers are not prevalent in classrooms, they do exist. This phenomenon may explain some of the discrepancy between research expectations and the findings among some of the second graders at a private, Catholic elementary school in Elmira, New York.

An additional reason that the expected correlational relationship was not found among certain subgroups that were tested could be attributed to the reading passage difficulties. The passages in either the oral reading fluency subtest of the DIBELS assessment or those used for the TerraNova could be developmentally above the students' comprehension level. Students need to encounter texts that they are developmentally prepared to understand. Usually these texts are grade-level appropriate. However, some students have difficulty performing proficiently in reading passages that are grade-level appropriate, therefore, comprehension can be limited (Koshinen, Bisson, Phillips, Creamer & Baker, 1999). The difficulty of the passages may have contributed to the discrepancy between research expectations and the findings among some of the second graders at a private, Catholic elementary school in Elmira, New York.

Implications for Practice

While a single study such as this one cannot provide exclusive guidelines on the ways to improve reading instruction in one's classroom, there are some practical implications for instruction that can be gleaned from this study. With fluency being overlooked in a number of American classrooms, teachers can benefit from recognizing the significance of the relationship between oral reading fluency and ultimately comprehending text. Without recognition of this critical relationship, teachers may not be instructing their students in a manner that will truly promote their ability to successfully attain meaning from encountered text.

Promoting fluency among students is an imperative responsibility for a classroom teacher. Students build fluency as they develop their ability to recognize text. This occurs as students encounter words frequently throughout their reading process. Therefore, it is

essential for readers to practice reading by rereading texts in an effort to familiarize themselves with words. Once a reader's level of familiarization is actually automatic, he is able to devote mental attention to comprehending the text. Therefore, oral reading practice is an imperative component of improving one's reading skills and must be incorporated into every classroom.

Maintaining student interest in practicing one's oral reading fluency is essential due to the motivation that one experiences when interested in a task. Students that feel successful in any learning process will be able to develop their sense of self-efficacy, or their perception of how well they can complete a task (Ferrera, 2005). Building interest in a learning task is a teacher's responsibility. Building oral reading fluency requires one to promote students to read texts that are at their appropriate ability level. Using activities like echo-reading, where the student repeats the text after a more competent reader, or readers' theater, where the story is performed as a play that is merely read aloud not acted out, will enhance a student's interest in rereading texts (Kuhn, 2004).

Once students understand that oral reading fluency is an important component of reading, their reading abilities can be greatly accentuated. Through proficient, fluent reading, students are able to utilize their mental energy to thoroughly comprehend text. As their ability to comprehend encountered text expands, it is important for teachers to develop instruction that accentuates comprehension methods. Such instructional techniques include thoroughly being able to summarize encountered passages and to mentally visualize story events, using graphic organizers to organize story information and other methods of thoroughly comprehending text (Ehren, 2005). This will be an

essential expansion to instruction that will result in students that can critically analyze encountered text.

Teachers that familiarize themselves with reading research are able to provide instruction that is appropriate at improving student skills. Current research on oral reading fluency is critical in transforming the ways that students are taught to read. Without a thorough understanding of the importance of oral reading fluency, one could not provide instruction that would promote students reading in a manner that would enable them to thoroughly comprehend encountered text.

Limitations

The population of this school is rather homogeneous. This population is comprised of 174 students. Of these students, 94.8% of them are white, 2.9% are black, 1.7% are Hispanic and 1% are Asian (National Center for Educational Statistics, 2004). The local school district, The Elmira City School District, varies in its ethnicity. This school district is comprised of 3081 students. Of these students, 77.8% are white, 19.3% are black, 1.9% are Hispanic, 0.7% are Asian and 0.3% are American Indian (National Center for Educational Statistics, 2004). The discrepancy between the this school's student population and the local public school population, regarding their ethnicity, would limit the researcher's ability to apply the findings to other student groups, even within the same demographic area.

Suggestions for Additional Research

Additional research is needed regarding a population that differs from this school's student population. While a relationship exists between the this population's oral reading fluency and comprehension of reading passages, the lack of diversity among this

student population could impact the results. A small number of African Americans and Hispanics participated, but their numbers were not proportionately representative of minorities in the U. S. population. Therefore, additional research should be conducted with more diverse populations.

Similarly, the nature of this school's population is such that economic diversity is not present. Families that desire to have their students attend the school are required to pay tuition. Due to the financial responsibilities of attendance, economic diversity is not present in the student population in a way that is representative of the U. S. population. Further research should be conducted with a more economically diverse population.

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Appendix A

Oral Reading Fluency and Comprehension Scores for

Students in Grades 2-3

Student Number	Grade	ORF score	Sex	TerraNova Scale Score
1	2	80	M	569
2	2	138	F	632
3	2	121	F	646
4	2	84	M	629
5	2	132	M	580
6	2	93	F	617
7	2	120	M	676
8	2	182	F	649
9	2	123	M	624
10	2	104	F	628
11	2	140	M	642
12	2	98	M	613
13	2	122	M	620
14	2	175	M	668
15	2	153	F	714
16	2	99	M	651
17	2	92	F	670
18	2	103	M	664
19	2	119	M	630
20	2	113	M	622
21	3	151	M	651
22	3	119	M	651
23	3	184	F	690
24	3	98	M	645
25	3	147	M	662
26	3	118	F	624
27	3	119	M	628

30	3	139	M	651
31	3	172	M	693
32	3	102	M	632
33	3	107	M	643
34	3	159	M	694
35	3	142	M	647
36	3	147	F	671
37	3	118	M	665
38	3	187	M	673
39	3	142	F	675
40	3	111	F	644
41	3	132	M	627
42	3	143	F	652
43	3	174	M	678
44	3	127	M	676
45	3	122	M	638
46	3	59	M	593
47	3	115	F	654
48	3	180	F	720
49	3	104	M	651
50	3	194	M	666
51	3	123	M	667
52	3	154	M	680
53	2	119	F	657
54	2	62	M	603
55	2	71	F	642
56	2	110	F	616
57	2	93	M	645
58	2	33	M	640
59	2	64	F	600
60	2	120	F	652
61	2	62	M	613
62	2	115	M	645
63	2	61	M	636
64	2	31	M	595
65	2	132	M	666

66	2	136	M	611
67	2	88	M	643
68	2	100	M	639
69	2	104	M	669
70	2	136	M	647