A BRIEF ANALYSIS OF THE COMPARATIVE EFFECTS OF TWO READING INTERVENTIONS ON THE READING COMPREHENSION GROWTH OF A SELECTED GROUP OF LEARNING DISABLED STUDENTS

By

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ABSTRACT

Reading comprehension is a skill that is essential to a student’s academic success. It is a process based on a set of specific skills that incorporates cognitive processing abilities with an environment rich in language acquisition. This not only enriches a student’s learning, but it also enables them to tap into the higher level thinking necessary for the reading of more complex text.

A number of studies have demonstrated that the learning disabled student can be successful in reading when a one-to-one model of reading intervention is incorporated into their school program. Specific strategies that focus on fluency and accuracy have been shown to increase reading comprehension. The guided oral reading program modeled by Anita Archer and a paired reading program, like “Read Naturally” have demonstrated success with both non-disabled and disabled students. Although both interventions have been shown to increase fluency and strengthen comprehension of print material, research has not substantiated the success of one model over the other.

Learning disabled students thrive in a classroom setting that is rich in teacher-directed instruction. They need models of effective reading that can help them be successful in all academic areas. This is especially true for Community School students who bring to the equation their own set of frustrations and limitations. In helping to prepare this very specific group of students for the real world, it is essential that that they become more proficient readers.
The purpose of this investigation was to compare guided oral reading and paired reading outcomes on both fluency and reading comprehension in a group of learning disabled high school students attending a Humboldt County Community School. An alternating treatment design was used. Baseline data were collected for each participant prior to introducing the two reading interventions. Reading rates and reading comprehension accuracy were calculated and graphed daily. Measures also included pre and post-testing of students using the Ekwall Reading Inventory. In addition, qualitative measures were employed to ascertain student preferences regarding reading instruction.
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DEDICATION

I dedicate this research study to every student who has struggled with the process of reading. They, in their infinite wisdom, have taught me more about the art of teaching than any packaged curriculum could ever begin to do. Their patient understanding as I opened up myself to their difficulties was a blessing, not only to my growth as an educator, but also to my evolution as an advocate for these students who struggle daily against a system dominated by a world of print. They have been my teachers, my gurus, and my cheerleading section when I encountered walls of frustration and personal guilt. I want to thank them for persevering and doing their best, and in the process offering me the gift of hopefulness. It is a gift that I carry close to my heart and give away freely to the legions of other struggling readers that I meet every August at the start of a new school year. You are the reason for my purpose and dedication as both a teacher and advocate for the struggling young reader.
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Second, I would like to acknowledge Deb Shepherd for her willingness to assist me in the research design and agreeing to become my observer for the fidelity piece of my study. Through constant e-mails, lunches at the Fiesta Café and long telephone conversations, she provided me with a safe, objective place to test out my ideas and express my sometimes frustration with the process. I would also like to acknowledge my principal, Jennifer Fairbanks, for giving me the opportunity to conduct my research during the summer months and being very flexible with my schedule when I needed the time to commit to my thesis.

And finally, to my dearest husband, Philip, for his wonderful support throughout this long journey, a heartfelt “Thank-you!!” This feat would have been impossible without your willingness to take on the many responsibilities that come with maintaining a home and vegetable garden. You were there for me every step of the way, encouraging me to keep on going when I felt overwhelmed by the task I had taken on and giving me
the space at night to write and reflect on my research. Thank-you for keeping me healthy and balanced; gently reminding me when I needed to step back and take that much needed rest. This would have never been possible without your love and support.
CHAPTER ONE
INTRODUCTION

Reading proficiency is integral to learning, especially as students advance into the middle school and high school years (Nes, 1997). Students who have not yet attained proficiency in reading struggle in content area classes, exhibit both emotional and behavioral issues, and are less likely to graduate from high school (Bryant, 2003; Fisher and Ivey, 2006; Nes, 2003). This is especially true for the learning disabled student in the Community School setting who also displays self-esteem issues, lacks academic motivation and struggles daily with failure due to poor reading skills.

The purpose of this thesis was to explore the relationship between the implementation of daily reading interventions and increased reading success in a group of learning disabled students in the Community School setting. Anecdotal evidence from previous work in the Community School setting demonstrated that students exposed to daily reading intervention 30 minutes a day in a developmental reading class experienced increases in both reading fluency and reading comprehension. At that time, multiple strategies were being implemented in a format designed to meet each student’s individual learning needs. It was, however, based on teacher-evidence and classroom-based assessments, difficult to determine which intervention or strategy was more effective at increasing reading fluency and comprehension in that particular group of students. With the anecdotal evidence providing a framework, a single-subject research design was developed to compare two reading interventions with a select group of learning disabled
Community School students. The goal of the research design was to determine which intervention was more successful in creating reading gains for this particular group of students.

Chapter Two provides a review of the current and relevant literature as it relates to the previous research in the field of reading and reading interventions. This chapter includes an overview of reading comprehension, problems encountered with reading comprehension and a profile of the struggling reader. It also provides a summary of traditional reading interventions and a discussion of Community School literacy issues. Chapter Two concludes with a discussion of the two research questions that formed the basis of this current research study.

Chapter Three includes a discussion of the methodology used to implement the research design. It includes a summary of the participants and a brief discussion of the setting and materials used to develop the study. Dependent and independent variables are discussed, along with treatment conditions. Chapter Three also includes the rationale for the experimental design and procedures, as well as a summary of how social validity was treated.

Results are presented in Chapter Four in both tabular and graphical format. Responses to pre and post-intervention questionnaires are presented in summation of key points. This section also provides information that tracts reading growth in both fluency and comprehension gains. Evidence is provided in grade equivalency (G.E.) gains for reading comprehension and correct words per minute (CWPM) read for fluency gains.
The thesis concludes with Chapter Five, which includes a discussion of experimental conditions and a summary of the research findings. The analysis in this section also includes the limitations of the study and implications for future research and teacher practice.
CHAPTER TWO
LITERATURE REVIEW

Introduction

Changes in the way we acquire information have made reading an important skill to master in the twenty-first century. The need to comprehend text and process information quickly has made the modern world both challenging and competitive for today’s students. For this reason, individuals who fall behind in reading discover a world that is increasingly more difficult to access.

Reading comprehension is based on a set of skills that includes tapping prior knowledge, gaining meaning from print, interpreting the content, and utilizing cognitive processing abilities (Nes, 1997). Fluent readers who possess automaticity and good word attack skills become proficient at understanding what they read. This in turn allows them to read quickly and accurately. As they become more efficient in their reading, they develop the critical thinking capacity that enables them to analyze and interpret more complicated text (Vaughn, Chard, Bryant, Coleman, Tyler, Thompson, & Kouzekanani, 2000).

Disfluent readers, who lack automaticity and speed, read in slow, halting ways that interfere with meaning and make reading an unpleasant experience. These students spend considerable cognitive resources decoding words which impacts their ability to comprehend text (Therrein, 2004). This failure to acquire appropriate reading skills
ultimately affects their success in the academic arena. It is those readers, defined as struggling and at risk for school failure, that benefit from interventions designed to boost fluency and increase reading comprehension (Bryant, 2003).

Given the positive outcomes experienced by students who read well, what are the outcomes for students who continue to struggle and find themselves challenged daily by a world based on print? This review will examine definitions of reading comprehension and explore some of the problems encountered with reading for meaning. These issues will form the basis of an interpretation of who is a struggling reader and what traditional interventions have been incorporated into their learning. Debate, however, still exists within the research community on which interventions result in the most positive outcomes for students (Marston, Deno, & Dongil, 1995).

The final sections of this literature review will discuss two reading strategies, paired reading and guided oral reading and examine how they can be successfully applied to a specific population of learning disabled students, who by definition are struggling readers. These two reading interventions will form the basis for the following research questions:

1. Will an individual reading intervention change the correct words per minute (CWPM) read for a select group of learning disabled students attending a Humboldt County Community School?

2. What are the comparative effects of guided oral reading instruction and paired reading instruction on the reading comprehension growth of a selected group of learning disabled students attending a Humboldt County Community School?
Reading Comprehension

Reading is one objective that leads to a student’s academic success (Nes, 1997). Becoming a proficient reader enables a student to advance through the grade levels, transitioning from learning how to read to reading to learn (Nes, 1997). Less proficient readers do not develop the skills that are important to early reading success. They in turn continue to struggle with academic achievement and subsequent success in the classroom (Shanahan & Barr, 1995).

Reading is an interactive process that connects the reader to the text (Rabren, Darch & Eaves, 1999). With appropriate instruction, the reader learns how to master the necessary skills and knowledge to access the world of print. These skills include phonemic awareness (manipulating sounds in language), alphabetic principal (letter-sound correspondence), fluency (speed, accuracy and expression in reading), vocabulary (word meaning) and comprehension or understanding what is read (National Reading Panel, 2000). Students who are successful at reading demonstrate well-developed decoding and fluency proficiency (Rabren, et al., 1999). These students are then able to coordinate those processes with other skills involved in reading comprehension (Eckert, Ardoin, Daisey, & Scarola, 2000).

A number of skills are required to enable a student to become an independent reader and comprehend text material (Chard, Vaughn, & Tyler, 2002). Competent word attack or decoding abilities (the ability to convert graphic symbols into intelligible language) help to foster a strong sense of word identification which in turn affects reading comprehension (Chapman & Klein, 2001). Other strategies that enable students
to understand what they read include being able to clarify text, predict outcomes, recognize the author’s purpose, and connect what is read to prior experience (Foorman & Torgesen, 2001; Eckert, et al., 2000).

Assisting students in developing reading comprehension skills within the educational setting involves explicit and direct instruction by trained professionals (Chard, et al., 2002). Although difficult to achieve, good teachers incorporate the technique of modeling to teach reading strategies to their students (Chard, et al., 2002). This involves demonstrating to the student the use of strategies to enhance understanding of print material. Students who are successful at this process will develop into strong, self-assured readers. Struggling readers who encounter difficulty with this approach will continue to experience failure as they fall further behind their same age peers (Vaughn, Hughes, Moody & Elbaum, 2001). This is more evident in a school climate that is being driven by content standards and high stakes testing such as the California High School Exit Exam (Bryant, 2003).

Reading comprehension is a skill that all students need in order to be successful in their academic lives. It is based on a set of strategies that combine phonics, decoding, fluency, word attack, and word identification with a holistic approach towards making meaning of text. The next section will address the issue of problems encountered with reading comprehension and the ways in which those problems affect students as they transition from elementary school to high school.
Problems Encountered With Reading Comprehension

Attaining basic reading skills is essential to success in school and in later adulthood (Bryant, 2003; Fisher & Ivey, 2006; Greenleaf, Jimenez & Roller, 2002). Students who are unable to achieve the essential building blocks of reading will continue to struggle in their lives as they confront a world increasingly shaped by the print media. If students cannot master phonemic awareness, word meaning, vocabulary development, and automaticity, they will be unable to access the skills required for reading comprehension (Therrien, 2004; Greenleaf, et al., 2002).

One of the most important skills that students must achieve before they can successfully understand what they read is fluency (Nes, 1997). Fluency is an ability that evolves with practice and teacher instruction. It enables students to develop immediate word recognition and analyze text content (Nes, 1997). Students who are unable to master the skill of fluency continue to struggle with reading and become less successful at comprehending what they read. These individuals later become labeled reading disabled or at risk for reading failure (Mastropieri & Scruggs, 1997).

Reading failure results in students who cannot overcome the challenges of their academic life (Mastropieri, Scruggs, & Graetz, 2003). At the secondary level this is observed in the disparity between a student’s reading ability and the required reading material at their grade level (Mastropieri, et al., 2003). The lack of basic reading comprehension skills prevents these students from accessing content area curriculum. If this continues through their high school years and they are unable to meet the demands of
more rigorous coursework, they are seriously at risk for school failure (Foorman & Torgesen, 2001).

Secondary-level students who remain in school will find that the performance gap between themselves and same-age peers continues to widen (Bryant, 2003; Fisher and Ivey, 2006). As schools focus more on standards-based education, students with poor reading skills will require interventions and teacher instruction that are more sensitive to their specific reading needs. If students are to be successful at developing grade level literacy, reading acquisition skills which are primarily learned in the elementary years become a necessary component for this group of struggling readers (Bryant, 2003; Greenleaf, et al., 2002).

Individuals who do not possess the ability to comprehend what they read will continue to struggle with the reading process throughout their lives (Bryant, 2003). The long term ramification of poor literacy is a societal issue that must be addressed in the broader context of our communities (Mastropieri et al., 2003). Students who drop out of school because of reading difficulties may struggle throughout their lives, not only on a personal level, but on an economic level as well (Bryant, 2003). The continuing difficulties encountered with the teaching of reading comprehension have made the educational community re-evaluate how to implement best practices for reading instruction in the schools (Therrien, 2004).

Schools in the United States are becoming increasingly more diverse (Linan-Thompson & Hickman-Davis, 2002). Many of these students, like those who are English language learners or who are learning disabled, struggle with reading comprehension and
therefore fall further behind their same age peers (Vaughn, et al., 2001). Those most at risk for reading failure often drop out of school and continue to struggle within their own communities. The next two sections will focus on who specifically these struggling readers are and analyze what traditional interventions have been used to meet their reading needs.

Profile of a Struggling Reader

Research demonstrates that students who do not possess basic reading skills by third grade continue to struggle with the process of reading into adulthood (Bryant, 2003; Francis, Shaywitz, Steubing, Shaywitz & Fletcher, 1994). Reading acquisition difficulties occur when students are English Language Learners (ELL), have gaps in their educational history or are learning disabled (LD) (Torgesen, et al., 2001). Of students with mild learning disabilities, 75-80% experience reading difficulties (Bryant, 2003; Ellis and Cramer, 1994). This impacts a student’s ability to attain the level of literacy needed to succeed academically in an educational setting driven by high-stakes testing (Vaughn, et al., 2000).

Reading difficulties that begin in elementary school often persist through the middle and high school years. Many of these students are identified for special education as they enter the upper elementary grade (Manset-Williamson & Nelson, 2005). The majority of students who then receive services for special education (U.S. Department of Education, 2002) are primarily diagnosed with reading deficits (Torgesen, et al., 2001).
These deficits include difficulty with automatic word recognition, decoding, fluency and reading comprehension (Ellis & Cramer, 1994; Therrien, 2004).

Failure to acquire the basic foundational reading skills affects student success in other academic areas and makes transitions between the grade levels difficult (Montgomery & Moore-Brown, 2003). If these students are to succeed with core academic curriculum, they will require skill building and the teaching of strategies to strengthen their reading comprehension (Fisher & Ivey, 2006; Rasinski, Padack, McKeon, Wilfong, Friedauer & Heim, 2005; Vaughn, et al., 2000). Reading instruction of this kind poses challenges to teachers who are faced with a wide range of reading abilities in their classrooms (Linan-Thompson & Hickman-Davis, 2002).

Less skilled or struggling readers are defined as individuals not performing at a level observed in same age peers (Nes, 1997). Approximately 20% of upper primary grade students do not achieve the requisite skills for competent grade level reading (Chapman & Klein, 2001). As these students struggle with reading, they fall further behind in school and later become at risk for secondary school failure. The ability to successfully attain these early basic reading skills positions an individual for growth in both reading comprehension and general knowledge (Chapman & Klein, 2001). These skills predict positive outcomes for future school success among elementary age children (Rashotte, Macphee, & Torgesen, 2001).

Secondary struggling readers face the challenge of the inequity between their reading ability and the required reading materials at their grade levels (Mastropieri, et al., 2003). This is especially true for the older LD student who often reads at the 4th or 5th
grade level (Fisher & Ivey, 2006; Mastropieri, et al., 2003; Rasinski, et al., 2005). The readability of texts at this level makes it difficult for these students to achieve reading success. These students with special needs fall further behind in school and find the requirements to pass content area coursework even more difficult to attain (Mastropieri & Scruggs, 1997; Mathes, Torgesen, Clancy-Menchetti, Santi, Nicolas, Robinson, & Grek, 2003).

The special needs student in the academic setting is often labeled LD. Learning disabilities refer to a number of disorders that affect how an individual acquires, organizes, retains and comprehends both verbal and non-verbal information (The Learning Disabilities Association of Canada, 2006; Family Education: About Learning Disabilities, 2006). These learning differences are often observed in individuals who exhibit average cognitive abilities (Family Education: About Learning Disabilities, 2006). They range in degree of severity and interfere with the acquisition of oral language, reading, writing and mathematics abilities. Learning disabilities result from dysfunctions in one or more processes related to perceiving, thinking, remembering and learning (The Learning Disabilities Association of Canada, 2006).

The majority of students identified as LD have deficits in the area of reading (Lyon, Fletcher, Shaywitz, Shaywitz, Torgesen, & Wood, 2001). Many of the older LD students are so delayed in their reading skills that they exhibit both deficits in reading comprehension and basic automaticity and fluency (Manset-Williamson & Nelson, 2005). Teaching these students offers the academic community both challenges and opportunities. The challenge comes from overcoming years of inefficient instruction and
disillusionment with finding text that is both age appropriate and high interest (Manset-
Williamson & Nelson, 2005). And opportunity comes from the increased ability in
metacognition and word knowledge that older students possess (Torgesen, et al., 2001).
This enables teachers to seek out reading interventions that are meaningful and
specifically designed to meet the needs of the older LD student.

A number of students struggle with reading in the academic setting, including
students labeled LD, those who have educational gaps, and students labeled ELL (Daqi
Li & Nes, 2001; Linan-Thompson & Hickman-Davis, 2002; Mastropieri & Scruggs,
1997). Struggling readers risk academic failure which may impact their future adult
lives. A number of reading interventions have been designed and implemented to assist
the struggling reader. These will be discussed in the next section of this literature review.

Traditional Reading Interventions

Reading comprehension is the most important skill that an individual acquires in
school (Mastropieri & Scruggs, 1997). Students who are learning disabled or have
English language learning needs exhibit deficits in their ability to make meaning from
print material. These difficulties often persist throughout their educational careers
because the ability to make meaning from text increases as an individual progresses
through school (Mastropieri & Scruggs, 1997). The intent of this section is to review a
number of reading interventions that have been incorporated into the academic lives of
struggling readers.
Basic Skills Approaches

The earliest interventions occurred in the 1970s and emphasized a basic skills approach to reading (Mastropieri & Scruggs, 1997). These interventions focused on reinforcement, vocabulary training, and corrective feedback. Reading comprehension was believed to be influenced by fluency practice which provided students with automaticity and the availability of greater cognitive resources to comprehend text (Nes, 1997). Struggling readers tend to be dysfluent, and thus skill-building appeared to be an effective tool for providing these students with practical interventions (Daqi Li & Nes, 2001). These interventions were found to have a moderate effect on reading comprehension (Mastropieri, et al., 2003).

Reinforcement

Reinforcement was based on the premise that students with learning disabilities would be motivated to learn by the provision of an external reward (Mastropieri & Scruggs 1997). External rewards consisted of tangible reinforcers like money or time spent skipping to a predetermined reading passage (Lovitt & Hansen, 1976). Both of these interventions demonstrated an influence on reading that was not measurable. Reinforcers had the ability to enhance effort only if students had the requisite skills to perform well (Mastropieri & Scruggs, 1997).

Direct Instruction

The direct instruction method is drawn from a model of effective teaching that is based on the principle of explicit, skill-based instruction on student reading skills.
(Marston, et al., 1995). Important aspects of this method include guided and individual practice, corrective feedback, choral responding, and the use of predictable texts (Mastropieri & Scruggs, 1997). Implicit in this technique is increased student academic learning time and a high rate of on-task behavior (Marston, et al., 1995). A number of published instructional curricula, such as DISTAR, Language! and Corrective Reading, include this intervention as their primary focus (Marston, et al., 1995).

Learning disabled students and struggling readers have benefited from the direct instruction model (Marston, et al., 1995). The provision of clarity, structure, lesson sequencing, and teacher feedback have assisted poor readers in improving their reading comprehension skills (Mastropieri, et al., 2003). Students have been shown to increase their performance on standardized tests after participating in direct instruction interventions that were targeted at improving their reading comprehension abilities (Mastropieri, et al., 2003).

Enhancement of Text

Cognitive-based interventions were the focus of the 1980s. These approaches focused on enhancing reading material and providing students with study guides to assist with comprehension (Mastropieri, et al., 1995). Text enhancement included the use of illustrations, the provision of pictures, graphic organizers for interpreting text, and study materials. These interventions were successful in improving the reading comprehension abilities of struggling readers (Mastropieri, et al., 1995). Other studies have validated the
use of study guides, semantic charts, and picture clues in assisting students to build comprehension skills (Torgesen, Alexander, & Wagner, 2001).

**Phonics Programs**

Knowing the alphabet system enables students to possess recognition of words, fluency, and comprehension skills (O’Shaughnessy & Swanson, 2000). Students who do not develop these skills are defined as poor readers who have not mastered phonological principles (Torgesen et al, 2001). Some of the activities associated with phonological training include rhyming, the blending of sounds, word segmentation, the learning of key words, and spelling (O’Shaughnessy & Swanson, 2000).

A critical component of any reading intervention includes phonology training (Torgesen, et al., 2001). Training in letter-sound relationships enables students to eventually acquire word knowledge. This results in students through word recognition, learning to put parts into wholes, building on rudimentary skills to develop comprehension skills (O’Shaughnessy & Swanson, 2000). Positive results have occurred in programs that provided 15 weeks of 30 minute per training (Vellutino, Scanlon, Sipay, Small, Pratt, Chen, & Denckla, 1996) and intensive two per day 50 minute sessions for 8 weeks (Torgesen et al, 2001). Both programs involved one-to-one phonics-based instruction.

Interventions that assist students in developing decoding skills are the best predictors of later reading success (Torgesen, et al., 2001). The ability to recognize words and build fluency fosters student success in later text comprehension. Thus
interventions that focus on phonics development can lead to growth in word recognition and sentence building (O’Shaughnessy & Swanson, 2000). These skills can then enable at-risk readers to become more competent at grade-level curriculum.

*Small Group Instruction*

To be successful in the classroom, reading interventions must be intensive and explicit (Foorman & Torgesen, 2001). One method to increase the intensity of the intervention is to provide for smaller numbers of students to be instructed at the same time. This process is defined as small group instruction (Chapman & Klein, 2001; Foorman & Torgesen, 2001; Rashotte, et al., 2001; and Vaughn, et al., 2001). Grouping practices that included small groups of 3-5 students have been shown to result in positive reading outcomes for struggling readers (Elbaum, et al., 1999).

Small group instruction consists of a set of interventions that is designed to meet the specific needs of struggling readers (Chapman & Klein, 2001). Successful programs share a number of common features. These include instruction in phonics and decoding, specific word meaning strategies, and high frequency sight words as well as the reading of connected text (Chapman & Klein, 2001). Balancing these interventions with the small group model results in significant reading comprehension growth for at-risk readers (Chapman and Klein, 2001; Foorman and Torgesen, 2001; and Rashotte, et al., 2001).

*Paired Reading*

In developing intervention programs for at-risk readers, it is important to consider the specific needs of the individual learner. One of the oldest reading interventions
involves providing one-to-one instruction, usually through some form of specialized tutoring (Nes, 1997). These programs include partner reading, peer tutoring, repeated reading and paired reading (Casazza, 2004; Mathes, et al., 2003; Nes, 2003; Therrein, 2004; and Vaughn, et al., 2000). Methods that incorporate one-to-one instruction assist students in developing fluency skills which increase overall comprehension abilities (Nes, 1997; Vaughn, et al., 2000).

Paired reading or partner reading functions by pairing a less-skilled reader with a better-skilled reader. Its purpose is to develop fluency by allowing students to read connected text with a partner (Nes, 1997). The result is that the less-skilled reader has a model of fluent reading that enables that student to experience repeated readings of print material. This significantly increases fluency and builds the comprehension skills required to construct meaning from what they read (Casazza, 2004; Nes, 2000). Paired reading also helps to develop listening skills and provides immediate feedback to the partner who is reading. These interventions are flexible and can be tailored to an individual’s specific reading needs (Vaughn et al, 2000).

Instructional methods that incorporate one-to-one reading into an intervention program have been found to be effective in promoting reading growth in poor readers (Mathes, et al., 2003). Paired reading has also been shown to improve fluency skills more than other reading interventions (Nes, 1997). A disadvantage of one-to-one reading interventions is the requirement of a teacher, tutor, or instructional assistant to help in the process. This may involve an added economic cost for school districts to train and pay tutors to work with individual students (Nes, 1997; and Vaughn, et al., 2000). This can
be circumvented by training parents to work with their children or pairing less-skilled readers with more-skilled readers (Nes, 1997).

Although the majority of studies indicate that most interventions resulted in an increase in reading comprehension, several pointed to little difference in comparative reading outcomes with a number of reading interventions (National Reading Panel, 2000). This could be due to the different methodologies incorporated by researchers to investigate their hypotheses. Studies completed in controlled laboratory settings had different outcomes than studies undertaken in the natural environment of a teacher’s classroom (Marston, et al., 1995). This might indicate that controlling for variables had a significant impact on collected data and that the issue must be addressed to increase the validity of results. More research in the natural setting under very controlled conditions would be helpful in the process of increasing our knowledge of which reading interventions work with very specific at-risk readers (Eckert, et al., 2000; Marston, et al. 1995).

Guided Oral Reading

Guided oral reading is a generic term for a variety of strategies where one individual, usually the teacher, helps another read. Repeated reading with guidance and feedback is one way to improve reading fluency (Optiz & Rasinsky, 1998). Another strategy is to have students practice reading while listening to the teacher read the text (Cunningham & Allington, 1999). A number of guided oral reading interventions that guide student reading with repetition, oral reading practice and summarization have
demonstrated improvement in both reading comprehension and fluency (Optiz & Rasinsky, 1998). The purpose behind these procedures is to assist students in reading text quickly, with accuracy and expression (National Reading Panel, 2000).

As an approach to emergent reading instruction, guided oral reading is structured with planning and focus that is best utilized in a small group setting. The role of the teacher is to assist students in the learning of the reading process (Opitz & Rasinsky, 1998). The goal then, of guided oral reading, is to reinforce key learning strategies by interrupting the reading of text at specific intervals (Opitz & Rasinsky, 1998). It is during those interruptions that teachers are able to model good reading, ask questions and reinforce text highlights.

The variety of guided oral reading approaches differs in the specifics of techniques, selection of reading material and group size (Opitz & Rasinsky, 1998). The unifying principle behind the variety of strategies is the fostering of reading independence in the emergent reader (Fountas & Pinnell, 2001). It is by definition a means to an end, not an end to itself. The basic premise resembles Routman’s definition of Whole Language, where phonics and reading skills are taught in the context of reading predictable texts (Optiz & Rasinski, 1998).

Students who participate in the guided oral reading model are taught at their instructional reading level. This is to support the student as a learner. Teachers scaffold instruction and orchestrate cueing systems during the procedure. This enables the student to succeed at their independent reading level (Cunningham & Allington, 1999). The skillful instructor of guided oral reading will incorporate high quality demonstration,
explanations, modeling and encouragement (Opitz & Rasinsky, 1998). All of this fosters reading independence.

There are a variety of opinions as to how to best implement the guided oral reading strategy. Some authors feel that text selection is very important (Cunningham & Allington, 1999) and that students should be exposed to large amounts of easy reading. They also feel that students need opportunities to read high interest books (Cunningham & Allington, 1999).

Exposure to decodable text that includes both phonemic awareness and sight word practice has been deemed essential to a successful guided oral reading intervention (Optiz & Rasinski, 1998). Cunningham and Allington (2000), however, argue that no studies support the claim that students read better when the text is restricted to only decodable words that have been pre-taught. Often stories that focus primarily on phonics and decodable words are uninteresting and pull students away from reading (Fountas & Pinnell, 2001).

If the primary goal of guided oral reading is to increase fluency and comprehension, then all instruction should be designed for that purpose. Learning to read is a social and constructive process (Fountas & Pinnell, 2001). Teachers who set high expectations and increase the level of student engagement achieve success in implementing a guided oral reading intervention (Fountas & Pinnell, 2001). Guided oral reading is also viewed by some as one of several essential components to a holistic reading program (Optiz & Rasinski, 1998). Those components would include strategies
like journal writing, developing word walls and shared reading (Fountas & Pinnell, 2001).

Traditional reading interventions have historically been developed to function as an adjunct to what is occurring in the classroom. They range from individualized programs like paired reading which builds on fluency and comprehension to small group and direct instruction which involve a composite of many different reading strategies. The next section will focus on the reading issues specific to alternative school students and the strategies that have been incorporated into their school programs.

Community School Literacy Issues

Traditionally, universal education has been valued in America, with educators and policy makers understanding that the real question confronting society is how to enable all children to succeed. With the federal mandate, No Child Left Behind (NCLB), that question has become even more urgent as budgets shrink and school accountability becomes more of a challenge (Blank, Melaville, & Shah, 2003). Students who do not succeed under these tight federal mandates often find that education for their specific needs is not equal or even adequate (Blank, et al., 2003). That is where alternative programs, like the Community School, have come to fill the gap where traditional programs have failed the most at-risk students.

Community Schools offer effective and innovative programs that assist students in developing their full academic and personal potential. Students referred to these programs have truancy issues, social and emotional needs beyond what a regular school
program can handle and issues of incarceration or expulsion (Court and Community Schools, 2006). An enduring vision of Community Schools is provided by the Coalition for Community Schools (2003) where:

A community school is both a place and a set of partnerships between the school and other community resources. Its integrated focus on academics, services, supports and opportunities leads to improved student learning, stronger families and healthier communities (p. 2).

The Humboldt County Office of Education (HCOE) Community School program provides not only academics to 6th through 12th grade students, but also encourages students to participate in a wide range of activities and services. These include case management, home visits, vocational opportunity, service learning, homeless education and substance abuse prevention (Blank, et al., 2003; Court and Community School, 2004). Individual learning plans are designed for each student upon enrollment, whereby students set goals for transition back to the traditional school setting or other alternative programs (including Charter Schools and Continuation High Schools).

Students who attend Community School have issues that prevent them from developing the basic reading skills to be successful in the traditional classroom (Taylor & Nesheim, 2001; and Tufly, 2001). These issues include poverty, homelessness, a home culture that does not support reading, gaps in their educational history, and involvement with drugs and alcohol (Taylor & Nesheim, 2001). The responsibility of educators is to develop and implement programs that will enable these at-risk readers to develop the skills necessary for reading success (Taylor & Nesheim, 2001). How that goal is to be
accomplished must involve not only instructional and support staff, but should also include a paradigm shift in the educational community’s thinking to focus on trusting that students can achieve specific and attainable goals with educators setting high standards for student success (Tufly, 2001; Cotter & Cotter, 2004). Students at risk for reading failure require intervention, not remediation (Papalewis, 2004). To attain that goal, a successful reading intervention program should include a focus of instruction, a complete model of teaching and learning, a consideration of individual learning needs, fluency practice, and positive feedback (Papalewis, 2004). Students who come from low socioeconomic environments also demonstrate weaknesses in language and background knowledge (Papalewis, 2004). A strong intervention program would then also include vocabulary development and tools for increasing a student’s background knowledge. Reading programs at alternative schools, like the Community School, have been based primarily on teaching students strategies to enhance their skill building and reading comprehension (Tufly, 2001). Teachers incorporate small group instruction methods and some one-to-one activities into their basic reading instruction (Montgomery & Moore-Brown, 2003). Paired reading strategies are incorporated into classroom programs with instructional assistants responsible for implementing the intervention (Elbaum, et al., 2000). Even with intensive programs to support student reading, scores on state standardized tests remain far below basic with most students (Bryant, 2003).
Conclusion

The literature reviewed indicates that poor readers struggle due to a variety of issues, including learning disabilities, English language learning needs and societal issues (poverty and homelessness) that prevent students from accessing local school programs. These may have little to do with the educational environment in which students learn the technique of reading. If students cannot read by the middle school years, they are at-risk for school failure which leads to a decrease in the number of students graduating from high school and an increase in the number of drop outs who become assimilated into their communities. It then becomes the school’s responsibility to move away from a focus on remediation and incorporate reading intervention as the methodology to provide students with the tools for reading success. Programs that support this model may subsequently reinforce what teachers are already doing in their classrooms.

In light of the research, intervention seems to be the key to increasing reading comprehension in at-risk readers. It is safe to say that although remediation has been the focus of many traditional reading programs, reading interventions that focus on skill-building, phonics instruction, and extracting meaning from text appear to be more successful with non-traditional and learning disabled students. Focusing on the student’s individual and specific learning needs is also important in the process of building reading skills.

Specifically, teachers must know their clientele before they develop reading programs for their students. For instance, paired reading might be successful under one set of conditions, while small group instruction might function better in another setting.
For this reason, it may be important to focus on teacher training that provides instructors of at-risk readers with a wide variety of reading interventions. Supplemental reading instruction that includes a number of strategies incorporated into an existing school program might be an effective way of achieving that goal.

Reading is a skill that is more than a composite of skills unrelated to one another. Any approach to the teaching of reading should include fluency, comprehension, phonics, and vocabulary building as components of any intervention program. Although both research and anecdotal evidence have shown strong results with paired reading, small group instruction, computer-based learning, reciprocal teaching, and peer- tutoring, other studies have demonstrated success with only the direct instruction and computer-based models. It appears that more time is required to field test instructional methods so that information about best practices can be quantified and then translated into practice.

Often what works in research does not always transfer into the educational setting. Paired reading and guided oral reading instruction have both shown positive reading outcomes for many at-risk readers. With the evidence supporting these interventions as significant methodologies to any reading program, I was interested in exploring which method resulted in greater improvement in reading comprehension for a unique group of learning disabled readers attending a small alternative school located in Humboldt County, Northern California. Based on the literature review the questions I wanted to specifically ask are: 1) Will an individual reading intervention change the correct words per minute (CWPM) read for a selected group of learning disabled students attending a Humboldt County Community School? and 2) What are the comparative
effects of guided oral reading instruction and paired reading instruction on the reading comprehension growth of a selected group of learning disabled students attending a Humboldt County Community School?
CHAPTER THREE

METHODS

Participants

Student participants were four high school students with learning disabilities; three enrolled in a Community School setting and one enrolled in a juvenile court school. The Community School is an alternative educational program operated by the Humboldt County Office of Education (HCOE). It meets the needs of local districts by serving students who are at risk for school failure. Some of those risk factors include truancy and lack of adequate academic progress. Von-Humboldt, the county juvenile detention school, is also operated by HCOE and serves students who are incarcerated for criminal activities.

The students were selected for this study by classroom teacher referral based on standardized testing results and curriculum-based assessment. Parent permission for student participation was obtained by written consent (see Appendix A for a sample of the parent letter). All four students were reading five or more grade levels below their current grade placement and were deemed at risk for school failure by their teachers. Of the three Community School students, two attended a 4 hour a day summer school program with resource services provided in an inclusive setting and the other student attended a modified Independent Studies program for two hours per day as part of his summer school contract. Resource services were provided daily as part of his school
program. The incarcerated student was in a six hour a day program with resource services provided in a 1:1 format 60 minutes per week.

The four students who participated in this study were described using a pseudonym of their choosing. Raw data collected from this study were incorporated into graphs and tables to visually present results obtained from all experimental phases. Data was kept on a computer disk and copied onto one back-up diskette. Information contained on paper records was transferred to a diskette and then shredded. Data stored on diskette will be maintained for 5 years and then destroyed by deleting all of information stored on the diskette. These steps were taken to protect the identity of the students I worked with and the integrity of my study.

All four participants were diagnosed with a visual processing disability in the areas of reading and writing. Each student’s special education binder contained current Woodcock-Johnson III (WJ III) reading assessment scores. The WJ-III is a norm-referenced standardized test that measures a student’s progress in reading, writing and mathematics. It is used in this setting to help determine whether a student qualifies for special education services and to track academic progress over time.

Ted (student names are self-selected pseudonyms) was a 16 year old tenth grade male with a WJ-III Broad Reading score of 2.4 Grade Equivalency(G.E.). Curriculum-based assessments using the Nelson Reading Inventory placed him at a 4.1 G.E. He came to Community School three years ago and was recently incarcerated at the Humboldt County Juvenile Detention facility. Ted had a long history of attendance
issues and criminal behavior that included serious substance abuse. He also had speech and language needs in the area of expressive language.

Bob was a 17 year old eleventh grade male with a WJ-III Broad Reading score of 2.2 G.E. Curriculum-based assessment using the Nelson Reading Inventory placed him at a 2.8 G.E. Bob enrolled in Community School three years ago and during that time spent several months incarcerated at Juvenile Hall. His academic progress in all areas has suffered because of truancy and substance abuse issues. He is currently living in a foster home and is experiencing his first stability in many years.

Ray was a 16 year old male with a WJ-III Broad Reading score of 4.6 G.E. Curriculum-based assessments were not available prior to the study implementation because Ray was new to the Community School setting. Ray was referred to Community School for both attendance and behavior issues that included some gang-related activity.

And finally, Mac was a 16 year old male with a WJ-III Broad reading score of 1.2 G.E. Curriculum-based assessment using the Nelson Reading Inventory placed him at a 1.3 G.E. Mac had been referred to Community School two years ago and was considered by staff to be a non-reader. He spent some time attending a Developmental Reading class, but made little progress in his reading ability due to both attendance and substance abuse issues.

**Setting**

The study was conducted in two different settings during the morning hours of the students’ summer school program. A small conference room at one of the Community
School sites in Eureka, California was the first setting; a room with which both students and staff were very familiar. It contained a large table with several chairs, book cases filled with curriculum and a reading library, three filing cabinets, and a storage cabinet used by the special education teachers. The walls contained a few posters and the floor was carpeted. The door could be closed for maximum quiet and privacy while working.

The second setting occurred in the Juvenile Detention facility’s multi-purpose room. This was a large, open area that functioned as both cafeteria and break room. The floors were tiled and one end of the room was solid windows that faced the outside grounds. The multi-purpose room was also the thoroughfare between the upper floor where the students were housed and the downstairs school classroom. The kitchen area was also opposite the side of the building that contained the large windows. On any given day there was a fairly steady traffic of students, probation officers, correctional staff and other individuals who were meeting with students. There was little privacy and no way to isolate the student while we worked.

Materials

Pre and Post-test results were obtained using both the San Diego Quick Assessment and the Ekwall Reading Inventory. Passages for measuring fluency were drawn from the “Read Naturally” series. Correct words per minute (CWPM) was the standard used to measure fluency and was recorded with a stop watch. Students recorded their results in their reading binders with yellow and blue highlighters. Binders consisted of four sections: 1) a selection of leveled “Read Naturally” stories, 2) Guided Oral
reading results, including graph paper and a reading record, 3) Paired Reading results, including graph paper and a reading record, and 4) assessment testing results and survey information. Students recorded their results with supervision using highlighter pens. Comprehension scores were recorded on another tracking sheet that was kept in their binder.

*Dependent Variables*

The effect of treatment conditions on students’ reading was assessed by measuring the correct words read per minute. Reading fluency was then defined as correct words read per minute (CWPM) in both the paired reading and guided oral reading intervention. A correct word was defined as a word that was pronounced correctly in less than 3 seconds. Table 1 illustrates how CWPM was determined using the “Read Naturally” rules for word counts.

Reading comprehension was defined as the ability to correctly respond to a series of five questions that followed the reading intervention. This was recorded in the data forms as correct reading responses as % correct. The format for the first four questions was cause/effect, word meaning and contextual. Students were asked to respond to the questions by circling the correct answer with pencils. The last question involved higher level thinking and students were guided to respond to this question orally with the examiner writing down their response in the space provided.
### Table 1

**Rules for Word Counts**

<table>
<thead>
<tr>
<th>Errors</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mispronunciations and Dropped Endings</td>
<td>If a student mispronounces a word, it is counted as an error.</td>
</tr>
<tr>
<td>Transpositions (Out of Sequence)</td>
<td>If a student transposes two or more words, count each word read out of order as an error.</td>
</tr>
<tr>
<td>Hesitations (Words Supplied by the Examiner)</td>
<td>If a student hesitates for three seconds, tell the word to the student and count the word as an error.</td>
</tr>
<tr>
<td>Omissions</td>
<td>If a student skips a word, several words, or an entire line, count each skipped word as an error.</td>
</tr>
<tr>
<td>Substitutions</td>
<td>If a student substituted one word for another, even if the substitution is a synonym, count it as an error.</td>
</tr>
<tr>
<td>Repeated Errors</td>
<td>If the student makes the same error more than once, count each instance as an error.</td>
</tr>
</tbody>
</table>

Students were pre and post-tested using the Ekwall Reading Inventory, a curriculum-based assessment which measures a student’s overall reading performance. This assessment consisted of the San Diego Quick, which measures a student’s sight word recognition skills and a series of graded paragraph readings which measure comprehension. The reading inventory determined a student’s ability to comprehend grade leveled material both visually and auditorially. Results were measured in terms of grade equivalency (G.E.).

Independent Variables and Treatment Conditions

Two interventions were incorporated into this research project to determine which of the two had a more significant impact on reading fluency and comprehension. Guided oral reading consisted of a series of pre-reading activities before students were called upon to read. These activities, presented in Table 2, included previewing the vocabulary, scaffolding the text and activating prior knowledge. As the students read aloud from the text, I corrected their errors and stopped after each paragraph to guide their understanding of the material. After the students had completed the protocol for guided oral reading, they were asked to respond to the comprehension questions that followed the reading.

Paired reading was the second intervention that was incorporated into this study. This strategy consisted of the repeated reading of a specific passage without the pre-teaching that occurred in the guided oral reading intervention. Table 3 describes the steps that were followed using the paired reading intervention. The session concluded with the student responding to a series of comprehension questions that followed the reading.
Experimental Design and Procedures

An alternating treatment design was used to compare the effects of the two reading interventions on reading fluency and comprehension. Other single-case designs were not selected because of threats to internal validity. ABAB designs and reversal designs restrict themselves to the evaluation of a single treatment or condition. When one or more intervention is used, as in multiple-baseline designs, problems arise when an examiner attempts to compare two or more interventions within the same subject. What we see occurring is that two or more interventions are administered in separate phases so that one intervention comes before the other. This sequencing effect restricts the conclusions that can be inferred about the different treatments. One would not be able to determine which of the interventions had the most significant effect, especially if one acknowledges that the effect of one intervention might be stronger or less strong depending on the sequence that they were administered.
Table 2.  

*Guided Oral Reading Protocol*

- Student chooses a story from the binder.
- Teacher reads the title of the story to the student.
- Teacher activates the student’s prior knowledge by looking at the story picture and discussing it with the student.
- Teacher reviews the key words at the beginning of the story.
- Student is asked to use each key word in a sentence.
- Student is asked to make a prediction about the story.
- Teacher and student review the questions at the end of the story.
- Teacher reads the story out loud while the student follows along, pausing after each paragraph to summarize the content of the paragraph.
- Student read out loud to the teacher for one minute.
- Teacher determines the correct words per minute read by the student.
- Student graphs results of the timed reading with a blue marker (cold reading score).
- Student practices the story 2-3 times.
- Student reads out loud to the teacher for one minute.
- Teacher determines the correct words per minute read by the student.
- Student graphs results of their timed reading with a red marker (hot reading score).
- Student responds to the comprehension questions at the end of the story.
- Student graphs the results of the comprehension score.
- Student then completes the story retell, using a minimum of three sentences to describe the story.
Table 3.

*Paired Reading Protocol*

- Student chooses story from the binder.
- Student silently reviews the story he/she will be reading.
- Student reads out loud to the teacher for one minute.
- Teacher determines correct words per minute read by the student.
- Student graphs results of the timed reading with a blue marker (cold reading score).
- Teacher reads the story out loud to the student while he/she follows along.
- Student practices reading the story to the teacher 2-3 times.
- Student reads out loud to the teacher for one minute.
- Student graphs results of their timed reading with a red marker (hot reading score).
- Student responds to the comprehension questions at the end of the story.
- Teacher marks the comprehension score on the graph.
The alternating treatment design is effective when comparing the effect of two interventions on the reading growth of specific individuals (Kazdin, 1982). This design is used 1) when withdrawal designs are not feasible due to ethical concerns, 2) when more than one individual is in need of treatment, and 3) when independent variable effects cannot be reversed or withdrawn (Kazdin, 1982). Experimental control is then demonstrated by individual response changing only when the independent variable is applied (Kazdin, 1982). This study included three major phases: baseline, intervention and maintenance.

**Baseline** No treatment occurred during baseline. Three cold readings using the “Read Naturally” leveled stories were obtained for all four students. Cold readings were obtained by timing students while they read from a passage without any preview or pre-teaching of materials that they were asked to read. Individual levels were determined by analyzing the results of the Ekwall Reading Inventory. Students were asked to read a story out loud from start to finish. During their reading, I timed them for 1 minute to obtain a CWPM score. The CWPM score was obtained by subtracting the miscues from the total words read during one minute. Comprehension scores were obtained by asking the students to respond to a series of five questions that followed the story.

**Treatment** The intervention sessions included oral reading fluency, discussion and verbal responses to comprehension questions. Students were pulled from their regular classes during the morning hours. Sixteen sessions were conducted individually in a setting that was familiar to the students. This included a small conference room at the Glen Paul school site and the multi-purpose room in the Juvenile Hall facility. Each
session lasted approximately thirty minutes and included both the guided oral reading and paired reading treatments. Students were subjected daily to both interventions with treatment order altered on different days. The final phase of the treatment condition included the application of the more effective intervention every day. The treatment phase lasted for 15 sessions.

Each treatment condition was administered with leveled passages from the “Read Naturally” series. Students were placed in a specific level based on the results of the Ekwall Reading Inventory. As students met target CWPM benchmarks, they were moved to higher reading levels. I followed a scripted format (see Tables 2 and 3) that enabled me to maintain consistency throughout experimental conditions. Praise was given to the students in the form of encouraging statements, but not for their specific performance levels.

**Maintenance** A maintenance phase was used in the study to examine whether or not the effects of either the guided oral reading or paired reading intervention would be maintained once the intervention was not occurring on a daily basis. In this phase, CWPM and comprehension percentages were obtained using the more effective reading intervention for each individual student. Three probes that occurred over a three month period after school resumed were used to check the lasting effects of the specific interventions. This was utilized to examine the stability of the results over time.
Interobserver Agreement

A second observer was trained in the methods of implementing both the paired reading and the guided oral reading strategy. The observer, who herself was a special education teacher, was familiar with the basic “Read Naturally” protocol. In both treatment conditions the observer determined the CWPM based on the model that I provided for her. Interobserver agreement was computed by obtaining a frequency ratio (i.e., the smaller total of CWPM divided by the larger total of CWPM times 100). In all, 33% of the passages were assessed for interobserver agreement. The mean interobserver agreement was 98% (range 97-100%).

Interobserver agreement was also obtained on student reading comprehension scores. The observer was trained in how to score the responses to the five questions that followed the reading passages. She was also trained in what elements were required to obtain an acceptable score on the oral question response. Interobserver agreement was computed by obtaining a frequency ratio (i.e., smaller total of correct responses divided by the larger total of correct responses times 100). In all, 33% of the comprehension questions were assessed. The mean interobserver agreement was 100%.

To determine whether treatment fidelity was occurring during the research study, the second observer assessed my application of the procedures using the protocol for each treatment and checking a “Yes” or a “No” by each of the specific steps in the procedure (see Appendix B and C for observation protocols). She observed my treatment application 33% of the time. Interobserver agreement was obtained by obtaining a
frequency ratio (i.e., the number of correct steps divided by the number of total steps times 100). The mean interobserver agreement was 99% (range 98-100%).

**Social Validity**

Students were asked to respond to a questionnaire that consisted of eight questions prior to participating in the study (see Appendix D for Pre-Intervention questionnaire). Questions were developed to determine student interest in reading, student motivation to become better readers and issues of personal reading difficulties. A follow-up questionnaire was administered at the end of the study to determine which intervention the students liked best and how they felt about participating in the specific research design elements (see Appendix E for Post-Intervention questionnaire). Information from the questionnaires was shared with the students and their teachers after the study was completed.
CHAPTER 4

RESULTS

All four students demonstrated gains in their mean reading fluency rates relative to baseline as noted in Table 4. Bob and Ray exhibited the greatest gains from baseline to the final phase (40 CWPM and 58 CWPM respectively), while Ted demonstrated a slight loss of minus 2 CWPM in mean reading fluency rate. Mac demonstrated a slight gain of 9 CWPM from baseline to the final phase. Although mean fluency rates dropped from the final phase to maintenance for Bob (5 CWPM) and Ray (24 CWPM), they still made gains relative to baseline (35 CWPM and 34 CWPM respectively). Ted demonstrated a gain of 10 CWPM during maintenance relative to the final phase and Mac showed a loss of 5 CWPM in the same period.

Results across the experimental phases are presented in Figures 1 and 2. Baseline represents no intervention and consists of three data points, which was sufficient to reflect baseline stability prior to intervention. In the first intervention phase, both interventions are administered under alternating conditions. The order of intervention was counter-balanced to control for order effect. In the final phase, the most effective intervention was administered by itself over the remaining sessions. Maintenance consisted of three probes taken a month apart at the beginning of the new school year. The more effective intervention was used as an instructional strategy during the maintenance phase.
Table 4

*Mean Fluency Rate (CWPM) From Baseline to Maintenance*

<table>
<thead>
<tr>
<th>Student</th>
<th>Baseline</th>
<th>Alternating PR</th>
<th>Treatment GOR</th>
<th>Final Phase</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ted</td>
<td>166</td>
<td>156</td>
<td>173</td>
<td>164</td>
<td>176</td>
</tr>
<tr>
<td>Bob</td>
<td>76</td>
<td>113</td>
<td>109</td>
<td>116</td>
<td>111</td>
</tr>
<tr>
<td>Ray</td>
<td>87</td>
<td>124</td>
<td>119</td>
<td>145</td>
<td>121</td>
</tr>
<tr>
<td>Mac</td>
<td>94</td>
<td>97</td>
<td>102</td>
<td>103</td>
<td>98</td>
</tr>
</tbody>
</table>

Note: CWPM refers to correct words per minute read. Final phase score based on the more successful intervention. PR refers to paired reading. GOR refers to guided oral reading.
Figure 1. A comparison of paired reading and guided oral reading hot scores for students across experimental conditions. Each data point represents correct words read per minute (CWPM) under four different phases.
Figure 2. A comparison of paired reading and guided oral reading hot scores for students across experimental conditions. Each data point represents correct words read per minute (CWPM) under four different phases.
Ted showed the most gain in reading fluency under the guided oral reading condition, starting with a baseline of 164 CWPM and ending with a score of 173 CWPM. This resulted in a gain of 9 CWPM after 7 sessions. He also showed a loss of 33 CWPM under the paired reading condition during the same treatment phase, ending with a score of 131 CWPM. He continued to demonstrate slow growth through the final phase, finally achieving a score of 186 CWPM during the maintenance condition, which resulted in a net gain of 22 CWPM.

Bob demonstrated the most gain in reading fluency under the paired reading intervention. He achieved a score of 69 CWPM during baseline and ended with a score of 113 CWPM. This resulted in an overall gain of 45 CWPM from baseline to the end of the alternating treatment phase. He continued to show growth during the final phase, increasing his CWPM by 8 after 4 sessions, but demonstrated a loss in reading fluency during maintenance. By month 3 of the maintenance phase, he increased his reading fluency from 102 CWPM to 117 CWPM, demonstrating a gain of 16 CWPM.

Ray’s gain in reading fluency was the most significant from baseline to the final phase. He showed the most gain in reading fluency under the paired reading intervention, increasing his CWPM from 78 during baseline to 136 during the treatment phase. This resulted in a gain of 58 CWPM. He also maintained steady growth during the final phase, achieving a score of 143 CWPM, which increased his reading fluency by 7 CWPM. Ray demonstrated a loss in reading fluency with a score of 113 CWPM at the beginning of the maintenance phase. By month 3 he had achieved a score of 134 CWPM, increasing his reading fluency by 21 CWPM.
Mac demonstrated the least growth in reading fluency from baseline to the end of the treatment phase under either experimental condition. He obtained a score of 93 CWPM during baseline and ended the treatment phase reading 99 CWPM. He demonstrated a slight increase in CWPM under the Guided Oral Reading condition. He began the final phase reading 112 CWPM and ended with a score of 93 CWPM. This resulted in a net loss of 16 CWPM. By month 3 of the final phase, Mac was reading at a rate of 102 CWPM.

All four students demonstrated gains in reading comprehension when comparing Ekwall Reading Inventory Pre and Post intervention results. Students initially scored at different levels during the pre-intervention phase and were brought up to 100% mastery during the post-intervention phase. Results are displayed in Figure 3 as correct responses to comprehension questions in percent (%) values.

Ted demonstrated the most significant growth in reading comprehension, gaining 40 percentage points from pre-test to post-test. Ray also showed significant reading growth, increasing his reading comprehension by 30 percentage points. Bob and Mac demonstrated smaller gains of 20 percentage points from pre-test to post-test.

San Diego Quick assessment results are highlighted in Table 5 showing grade equivalency (G.E.) values for both the pre-test and post-test conditions.

Ted demonstrated a growth of 1 G.E. from a pre-test value of 4.0 G.E. to a post-test value of 5.0 G.E. Bob’s overall reading gain from pre-test (3.0 G.E.) to post-test (5.0 G.E.) was 2.0 G.E. Ray’s reading gain from pre-test (4.0 G.E.) to post-test (5.0 G.E.)
Table 5

*San Diego Quick Assessment Results*

<table>
<thead>
<tr>
<th>Student</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ted</td>
<td>4.0 G.E.</td>
<td>5.0 G.E.</td>
</tr>
<tr>
<td>Bob</td>
<td>3.0 G.E.</td>
<td>5.0 G.E.</td>
</tr>
<tr>
<td>Ray</td>
<td>4.0 G.E.</td>
<td>5.0 G.E.</td>
</tr>
<tr>
<td>Mac</td>
<td>1.0 G.E.</td>
<td>2.0 G.E.</td>
</tr>
</tbody>
</table>

Note: G.E. refers to grade equivalency. Results based on student independent reading level only.
Figure 3. A comparison of comprehension results between Ekwall Reading Inventory Pre and Post intervention phases. Correct responses are expressed as percentages (%).
was 1.0 G.E. And finally, Mac showed a 1.0 G.E. gain in reading from a pre-test value of 1.0 G.E. to a post-test value of 2.0 G.E.

Elkwall Reading Inventory results are displayed in Table 6 showing grade equivalency (G.E.) values for both the pre-test and post-test conditions.

Ted, Bob and Ray all demonstrated reading gains of 2.0 G.E. from a pre-test condition of 4.0 G.E. to a post-test condition of 6.0 G.E. Mac showed the smallest gain from pre-test (2.0 G.E.) to post-test (3.0 G.E.) increasing his G.E. by 1.0.

Mean reading comprehension scores for the five phases are represented in Table 7. Scores are based on percentages of correct responses to the five comprehension questions that follow the individual stories of the “Read Naturally” program. All four students demonstrated gains in reading comprehension relative to baseline, with Bob and Mac showing the most stability during the maintenance phase.

Grade equivalency gains relative to baseline using the “Read Naturally” program are highlighted in Figure 4. Results are displayed as grade equivalency (G.E.) gains from baseline to the maintenance phase using the “Read Naturally” program during the intervention. Ted demonstrated the most significant growth of the 4 student participants, gaining 3 grade equivalencies from baseline to maintenance. Bob and Ray showed a growth of 1.5 G.E. and 1.0 G.E. respectively. Mac demonstrated the least gain in overall reading, increasing 0.5 G.E. from baseline through the experimental condition and then remaining consistent at 2.0 G.E. during maintenance.
### Table 6

_Ekwall Reading Inventory Results_

<table>
<thead>
<tr>
<th>Student</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ted</td>
<td>4.0 G.E.</td>
<td>6.0 G.E.</td>
</tr>
<tr>
<td>Bob</td>
<td>4.0 G.E.</td>
<td>6.0 G.E.</td>
</tr>
<tr>
<td>Ray</td>
<td>4.0 G.E.</td>
<td>6.0 G.E.</td>
</tr>
<tr>
<td>Mac</td>
<td>2.0 G.E.</td>
<td>3.0 G.E.</td>
</tr>
</tbody>
</table>

Note: G.E. refers to grade equivalency. Results based on student’s independent reading level only.
Table 7

Reading Comprehension Results Using “Read Naturally”

<table>
<thead>
<tr>
<th>Student</th>
<th>Baseline</th>
<th>Treatment</th>
<th>Final</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GO</td>
<td>PR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ted</td>
<td>87%</td>
<td>95%</td>
<td>100%</td>
<td>93%</td>
</tr>
<tr>
<td>Bob</td>
<td>87%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Ray</td>
<td>87%</td>
<td>100%</td>
<td>100%</td>
<td>93%</td>
</tr>
<tr>
<td>Mac</td>
<td>87%</td>
<td>93%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: Percentages are based on mean scores for individual phases. Baseline and maintenance mean scores were obtained from three data points each. Treatment and final phase mean scores were not based on the same number of data points due to the variability of sessions among all four students. Treatment phase consists of guided oral reading (GOR) and paired reading (PR).
Figure 4. A comparison of grade equivalency (G.E.) gains from baseline through the maintenance phase for all 4 student participants.
Results of the student questionnaire prior to administering the study indicate that all 4 students did not like reading and were expressing a desire to become better readers. Their responses to “What don’t you like about reading?” ranged from “It makes me mad” to “I get bored sitting.” All 4 students also expressed that reading failure was the primary reason for their lack of school success. Their responses to “What has been difficult about reading?” included “Understanding what I read.” and “Too many big words.”

Three of the boys mentioned that they all had experienced trouble reading when they first started school. Some of their difficulties included “Problems with letters.” and “Keeping up with the other kids.” What teachers had done to help included responses like “Read to me and help me to figure out the word.” and “Helping me by reading to me.” All 4 boys felt they the might become better readers by participating in the study.

Post-Intervention questionnaires revealed that 3 out of the 4 students did feel that they made overall gains in their reading by participating in the study. Their responses to “How did you like being part of the project?” ranged from “It helped me out.” to “I learned how to read better.” Participating in the project also helped them to become better readers. Their responses to “How did participation in the project help you to become a better reader?” included “The one to one help,” “I met my goal,” and “Practice reading every day.” Overall, the majority of the responses to the Post-Intervention were positive. The one negative response came from one student who felt that nothing could be done to change his attitude towards reading.

All 4 students agreed that having the teacher read out loud prior to them reading on their own was their preferred intervention technique. This technique was incorporated
during the guided oral reading treatment condition, which focused on scaffolding student learning to increase reading success. They also enjoyed keeping score and one student, Bob, liked the silent pre-reading with discussion activity that occurred prior to application of the paired reading intervention. Their responses to “Did participating in the study make you want to read more ranged from “I read more, but I still don’t like sitting.” to “Not really.”
Multiple treatment designs are the best experimental choice when one is interested in comparing two or more interventions that are applied to the same subject (Kazdin, 1982). The purpose of this treatment design is to be able to make claims about the effectiveness of the treatments independent of the sequence that is incorporated into the research. For the purposes of this study, the alternating treatments design was the best choice to use for comparing two reading interventions with different subjects. Of significance to this particular research design was the ability to implement two interventions at different times; in this case, alternating treatments on the same day.

Two research questions were explored in this study. The first research question addressed was: Will an individual reading intervention change the correct words per minute (CWPM) read in a selected group of learning disabled students attending a Humboldt County Community School?

To answer the first research question fluency rates were measured using the “Read Naturally” program. All four study participants increased their fluency rates from baseline to the maintenance phase, demonstrating that an individual reading intervention has the potential to increase fluency if applied on a daily, consistent basis. Response rates among the study participants differed due to factors that affected consistency. These factors included study fatigue, personal issues that prevented students from fully engaging in the interventions and attendance issues.
The second research question was: What are the comparative effects of guided oral reading instruction and paired reading instruction on the reading comprehension growth of a selected group of learning disabled students attending a Humboldt County Community School?

In order to answer this research question an alternating treatment design was used to test the comparative effects of the two interventions on the four individual students. After establishing a pre-test independent reading level using the Ekwall Reading Inventory, students participated in a 30 minute daily reading intervention using both the guided oral reading and paired reading methods. This was accomplished using the “Read Naturally” program. Students were post-tested at the end of the study to measure a new independent reading level and to determine if reading gains had been achieved.

All four students demonstrated variable results when analyzing the comparative effects of the two reading interventions. Ted showed the most significant growth and improved fluency with the guided oral reading method. Results were mixed with Mac, who seemed to gravitate towards the guided oral reading method because of more student-teacher interaction, but overall demonstrated little preference for one method over the other. Bob and Ray showed the most gain in reading fluency with the paired reading method.

After obtaining a hot reading score, students were asked to respond to a series of five questions that followed the “Read Naturally” stories. These questions provided continual assessment of reading comprehension and were tracked daily to measure student progress. All four participants began the study with baseline mean reading
comprehension scores of 87% and by the end of the study they all demonstrated reading comprehension results that were consistent and high.

The other instrument utilized to measure reading comprehension growth was the Ekwall Reading Inventory, which enabled me to directly compare grade equivalency (G.E.) gains from pre-test to post-test conditions. Based on these results, all four students demonstrated reading comprehension gains, both in terms of grade equivalency (G.E.) gains and overall correct responses as measured by percentage points (%).

Grade equivalency gains using the “Read Naturally” program were also measured from baseline to the maintenance phase. As measured by overall gain in grade equivalency (G.E.), all 4 students did succeed in achieving higher scores by the study’s conclusion. This data is remarkable given the short time period of the study.

Student participants were administered a questionnaire prior to and at the conclusion of the study. Responses were analyzed and categorized to determine the unique reading experience of each student participant.

Overall, all four students did not like reading prior to the study, but were expressing a desire to increase their reading skills. They viewed their participation in the study as a means to achieve that goal. Even though they all had experienced different reading difficulties, they all concurred with the statement that reading failure had severely impacted their school successes.

In general, post-intervention questionnaire results suggest that the student participants felt positive about taking part in the study. They also seemed to feel more confident as readers, thereby succeeding in their initial goal of participation. However,
they all agreed that participating in the study did not necessarily make them want to read more.

Reading fluency is one of the benchmarks of early reading success that demands to be mastered in early reading development. Readers who have not yet attained automaticity in reading spend cognitive energy decoding words and making sense from text (Rasinski et al, 2005). Hence, reading comprehension is seriously impacted. At-risk readers, like the four study participants, have not yet attained the reading fluency that enables them to be successful in the core curriculum. It was this perspective that guided me in the development and analysis of my two research questions.

The first question I posed in this study was whether an individual reading intervention would change the correct words per minute read (CWPM) in a select group of learning disabled students. My conclusion from the research is yes. All four students made gains in reading fluency as measured by CWPM read regardless of the intervention used.

Students with learning disabilities who experience reading difficulties have been found to need more direct instruction and practice on how to become fluent readers. Repeated reading interventions have been successful with this particular group of at-risk readers (Allinder et al, 2001; Chard et al., 2002; Rasinski & Hoffman, 2003). In teaching students to become more fluent readers, research supports the idea that students need to be given opportunities to practice fluency in an environment that is safe and nurtures risk taking (Allinder et al, 2001) Hence, the benefit of 1:1 instructional time with a trained teacher.
All four study participants were given opportunity to practice their fluency skills in an environment that was safe and comfortable for them. They received 30 minutes additional reading intervention from a trained teacher every day that they attended summer school. Although the juvenile hall setting was familiar to Ted, it was not necessarily the most private environment. As evidenced by the significant gains he made in reading fluency, the setting did not appear to impact his performance. By the end of the study, all four students read more fluently and with more expression.

These findings are consistent with the previous research (Chard et al, 2002; Linan-Thompson & Hickman-Davis, 2002; Manset-Williamson & Nelson, 2005; Therrien, 2004) which demonstrates the need for learning disabled students to receive direct instruction in reading fluency in order to achieve accuracy and automaticity. Another way to meet the needs of struggling readers is to provide supplemental reading instruction that has sufficient length, is intense and has a long duration in a 1:1 setting (Linan-Thompson & Hickman-Davis, 2002). Students in this study were provided with a supplemental program that lasted 30 minutes per day. What was interesting to note in the study’s outcome was that students in these 1:1 groups made significant reading gains in only 13 weeks. This has implications for schools that might be able to use their resources more efficiently by providing supplemental instruction either before school or in an afternoon reading program over a shorter time duration to meet the needs of a greater number of students.

The students who participated in my research all experienced reading difficulties which impacted their success in the core curriculum. Prior to the study, all four were
receiving additional reading support 1 to 2 times per week from their Resource Specialist Teachers. Ted, Bob and Mac had been participating in the “Read Naturally” program and Ray was receiving core curricular support in reading and writing. Ray was the only student unfamiliar with the “Read Naturally” program. Fluency issues seemed to be at the root of their reading difficulties. As they became more fluent and automatic, their comprehension improved and they appeared to enjoy the reading process more.

There are no established reading fluency norms for students above the 9th grade, which seems to reinforce the attitude that reading fluency is not a concern at the secondary level (Rasinski et al, 2005). My results indicate otherwise. Poor reading performance can lead to frustration, reading avoidance and lack of school success. As students become more fluent in reading, they not only are able to access and comprehend print information more efficiently; they feel better about themselves as readers. Reading fluency may thus be an important aspect of intervention among these older high school students.

Reading fluency norms are available for students up to the eighth grade (Rasinski et al, 2005). If you extrapolate these norms and use them to compare the fluency gains observed in my study participants, one can clearly see that all four students, with the exception of Ted, were reading far below what would be expected of them. According to these norms, the 50th percentile for a spring eighth grade student is 171 CWPM and the 25th percentile norm is 141 CWPM (Rasinski et al, 2005). When I put this into context, it was clear that Bob, Ray and Mac were all functioning below the 25th percentile for eighth
graders. On average, these students had not achieved a level of fluency that would enable
them to be successful in the core curricular areas.

The second question I asked in this study, “What are the comparative effects of
guided oral reading instruction and paired reading instruction on the reading
comprehension growth of a selected group of learning disabled students,” was not as
clearly answered by the research findings.

Fluent reading, which consists of speed and accuracy, is an extremely important
skill to develop (Chard et al, 2002). Students identified as learning disabled often
struggle with fluency, which eventually leads to deficits in reading comprehension.
Older readers have been found to increase their reading success with vocabulary practice,
word reading and text reading at their independent reading level (Moats, 2001).
However, researchers differ in their opinion as to which strategy or intervention is more
successful with the older student (Chard et al, 2002; Fisher & Ivey, 2006; Manset-
Williamson & Nelson, 2005).

It is with that framework that I chose to compare guided oral reading with the
paired reading approach. The parameters I defined as paired reading consisted simply of
repeated and timed reading between teacher and student. This format has been found to
increase fluency rates among upper elementary and middle school learning disabled
students (Allinder et al, 2001). The benefit to the student appears to come from the 1:1
instructional time with a teacher well-trained in the methodology.

Guided oral reading in my study consisted of pre-teaching the vocabulary,
activating prior knowledge, making predictions, summarizing the text and paired reading.
Research has demonstrated that poor, older readers may need more intensive, appropriate instruction to achieve reading gains (Chard et al; Moats, 2001; Torgesen et al, 2002). Ultimately, my goal was to determine if either intervention was more effective at improving reading comprehension in the 4 study participants. Past studies have been inconclusive as which of the many models of paired or repeated reading result in increased comprehension (Chard et al, 2002). And little to no research has focused on the middle to high school age student (Fisher & Ivey, 2006; Rasinski et al, 2005).

The four students who participated in the study were all unique in their individual backgrounds, reasons for referral to an alternative school setting and reasons for academic failure. What they shared in common was their lack of reading success and their motivation to become better readers. Their motivation to read more made them willing participants, who when attendance issues were not a concern, experienced consistent reading progress. Their uniqueness highlighted the very individuality of what worked best for them in reading. Hence, because of the variability in my data I was unable to conclude that one intervention was more successful than the other.

Ted was a quick decoder, but did not always comprehend what he read. His comprehension tended to decrease when he raced through the reading, focusing only on the increase in correct words read per minute and not on the content of the story. As he slowed down and read more fluently with better expression, his overall comprehension did increase. He was also often moody, either refusing to participate because of his desire to engage in other, more preferred activities (the computer, art) or having to be encouraged into cooperating with my reading intervention.
Ted had good comprehension with both reading interventions. It was interesting to note that he always improved with the second reading, no matter which intervention was used. The only exception was in the fourth session when he was asked to read a story that had difficult names and dates. He also comprehended text information better if he summarized each paragraph as I read out loud to him and prompted him with questions about the story prior to his hot reading score. He also benefited from preview and practice of new vocabulary words. Thus the greater success with the guided oral reading intervention. His one consistent area of difficulty was transitioning from one column of text to the next column of text in the “Read Naturally” stories. Ted continued to receive “Read Naturally” from his special education teacher in the juvenile hall setting throughout the rest of the summer and late into the fall semester, which could account for his continued success during the maintenance phase.

Bob had been exposed to the “Read Naturally” program before the study began and was very familiar with the process. He was often sleepy and distracted in the morning. He also expressed greater success when the story that he was reading was of high interest. The 1:1 format appeared to work very well for Bob. He seemed to thrive with the consistency and predictability of the “Read Naturally” program. Wait time was integral to his success when asking him to respond to comprehension questions.

Bob performed worst during the second reading, no matter which intervention was being used. He appeared to fatigue by the time the second intervention was implemented. Although he achieved greater success in fluency building with paired reading, he demonstrated better comprehension with the guided oral reading method.
Bob did not respond well to the pre-teaching of vocabulary and story prediction, but he thrived when he was asked to silently read the story to himself prior to the cold reading.

Ray was absent from the study for the first two days due to illness. He was still ill when he participated in the next two sessions and then was out again for the next two meetings. Ray suffered from distractibility and difficulty in focusing on the task at hand. This was the first time I had worked with him in the school setting and his first exposure to the “Read Naturally” program.

Ray’s fluency scores were higher with the paired reading intervention, although his comprehension scores were slightly better with the guided oral reading strategy. He sometimes improved with the second reading, but was also apt to perform worst with the second reading, not matter which intervention was used. Performance appeared to be linked to fatigue, anxiousness to return to class and less focus with the second reading. He seemed to respond positively to the high interest material and being able to review unfamiliar vocabulary before he read.

Although Mac was heavily involved with probation, he still exhibited attendance issues which impacted his success in the study. He was either absent or arrived late the first week and then left town without permission the last week of the summer session. Mac had already participated in the “Read Naturally” program the semester before and was very familiar (and successful) with the process.

Mac always improved with the second reading, regardless of the intervention that was being used. He tended to become frustrated with the paired reading intervention, exhibiting an unwillingness to participate and calling the process “stupid.” He preferred
the scaffolding that occurred with the guided oral reading method, responding positively
to both story preview and the pre-teaching of unfamiliar vocabulary words. He also
performed better when the story was of high interest to him. By November of the next
school year, Mac was once again participating and being successful with the “Read
Naturally” program. He was also more motivated and engaged in school.

Reading fluency is one of the benchmarks of reading success that demands to be
mastered in early reading development (Rasinski et al, 2005). Without it, students
struggle with reading comprehension in their later educational careers. This was
evidenced by the four research participants who were older, struggling high school
readers. They had all been identified by their teachers as being at-risk for school failure
because of their poor reading skills. They also, as revealed by their responses in the pre-
intervention questionnaire, wanted to become better readers.

Research has demonstrated that slow fluency rates contribute to poor
comprehension (Chard et al, 2002; Hashbrock et al, 1999; Therrien, 2004). Students who
are dysfluent not only spend more cognitive time decoding and attacking unfamiliar
words, they also require more time to accomplish reading tasks. Mac, who had the most
severe reading disability, struggled with both fluency and word attack skills. As he
became more accurate with practice in his reading, his fluency rate did not necessarily
increase. As the material became more difficult and demanding, he became more
frustrated with the task at hand. Poor reading performance has been shown to lead not
only to frustration, but also reading avoidance and lack of school success (Rasinski et al,
2005).
Accuracy in recognizing sight words is the basis for successful fluent reading (Torgesen et al, 2001). All four students scored five or more grade levels below their expected grade equivalency score on the San Diego Quick Assessment. This fact alone was severe enough to affect their fluency rates, with the exception of Ted, who demonstrated fluency rates above 180 CWPM at the end of the maintenance phase. Although all four students could read more accurately with practice, reading rates were often affected as the material became more difficult or uninteresting. To close the gap in reading fluency, students with learning disabilities would have to add new words quickly in order to “catch-up” with their same age peers (Torgesen et al, 2001). They would also need more time spent in the practice of reading.

A number of studies have demonstrated reading fluency gains with both paired reading and guided oral reading (Chard et al, 2002; Marsten et al, 1995; Nes, 2003; Therrien, 2004), but none have compared these two interventions against one another with a group of learning disabled students. My original intent with this specific research design was to determine if one intervention was more effective in increasing reading outcomes for this select group of students. The data from the research was inconclusive and re-affirmed my belief that with learning disabled students, one size does not fit all.

Students with learning disabilities have different needs and learning styles. This was obvious in my work with the four individual students. Ted and Mac performed better with the guided oral reading method, while Bob and Ray achieved more success with paired reading. Each student also responded differently and with more success to very specific strategies. Ted gravitated towards summarization of paragraph reading and
probing questions asked during the reading. Bob needed wait time prior to responding to questions and liked to read the story silently to himself before the intervention began. Ray enjoyed the high interest stories and wanted to pre-read the material to himself before the initial cold reading. And finally, Mac needed the pre-teaching of embedded vocabulary and word attack skills taught while he completing the practice readings. All four with very specific needs that I believe also affected the outcome of the study.

Repeated reading can be a powerful tool for increasing fluency, especially if the intervention is intensive and consistent (Hashbrouch et al; Allinder et al, 2001). This is well-documented in this current study where all 4 students demonstrated significant fluency gains from baseline to the maintenance phase. What isn’t clear is whether increases in reading comprehension were a direct result of reading intervention preference. This supports the idea that positive reading outcomes are not necessarily intervention specific (Vaughn et al, 2000). One can also argue that other factors, like more 1:1 time with a teacher and more scaffolding of information being taught, may have also contributed to the positive reading outcomes noted in my study.

Debate exists about the nature of the relationship between fluency and reading comprehension, but some people agree that an increase in one can cause an increase in the other (Vaughn et al, 2000). Other studies have demonstrated that reading comprehension gains occurred when students participated in a reading program that was systematic and explicit (Torgesen et al, 1999). What can be concluded from my study is that in teaching students to become more fluent, they need to be given opportunities to practice fluency in an environment that is safe and nurtures risk-taking. Hence, the
benefit to the student of additional 1:1 instructional time with a trained teacher (Allinder et al, 2001; Daqi, L. & Nes, S., 2001). With more explicit instruction and practice in reading fluency, students would then exhibit gains in their overall reading abilities and increases in reading comprehension.

Limitations of the Study

Community School students historically exhibit both attendance and behavioral issues. They often bring their personal problems into the classroom, a fact which interferes with the quality of their learning. This limits the effectiveness of a research design that is dependent on daily student participation. Student absences were a concern in this study, especially for Ted, Ray and Mac. For longer investigations, issues of truancy and behavior would be a concern and a threat to internal validity.

Another historical concern has to do with the characteristic of the relationship between the less skilled reader and the researcher. All four study participants knew me from the previous school year, either as their Resource Specialist Teacher or as an on-site staff member. I had successful relationships and weekly interactions with three of the students (Ted, Bob and Mac) which might have influenced or impacted the outcome of the study. Eliminating the teacher-student relationship would help to reduce this second threat to internal validity.

The final historical concern had to do with Ted’s experience in the Juvenile Hall setting. There were frequent interruptions and noise occurrences in the multi-purpose room where the interventions were performed that were absent in the experiences of the
other three boys. Further replication in this setting without interruptions is warranted to gain a better understanding of this intervention’s success in the incarcerated setting.

Maturation of the student clientele is another limitation that must be considered when interpreting the results. Students can often become bored or fatigued or make gains regardless of the intervention. Bob was usually tired in the morning and tended to exhibit more fatigue during the second intervention time. Ted spent much of his time reading novels and magazines when not in the classroom; often well past lights out time in his cell. This could have easily affected the rapid gains he made in reading fluency. And finally, Bob, Ted and Mac continued to receive “Read Naturally’ practice during the regular school year, which might explain their stronger maintenance scores when compared to Ray.

Another factor that contributed to maturation of the student participants was the sense of fatigue and boredom observed towards the end of summer school that was noted in all of the boys, except Ted. And lastly, as another consideration of maturation, students may have deliberately slowed down their reading rates in order to increase their comprehension scores since they became “research savvy” with time and knew that they would be asked comprehension questions at the end of their paragraph readings.

Selection bias is a limitation that needs to be addressed in this study. Students were selected for the study by classroom teachers who made individual determination of reading needs. All four students were high school students who were also being asked to attend a Community School summer session (with the exception of Ted who attended a year round school program). All four students also happened to be boys who were also
on formal probation. No girls were referred to the study. It would be interesting to replicate this study during the regular school year with a different group of students to determine if similar results could be obtained.

Another limitation of the study were the settings used. Different settings were used to conduct the study; one at Juvenile Hall and the other in a conference room at the Glen Paul School site. All four students were pulled from their regular classrooms to participate in the reading interventions. Ted seemed to have the most difficulty with the process, especially if he were pulled out during preferred activity time, like computer time or P.E. This threat to internal validity might make one question whether accurate inferences can be made about the impact of treatment. The other consideration involves how treatment was delivered. Even though a high degree of fidelity exists, the question remains whether the interventions were delivered equally and with the same quality consistently.

It is difficult with this current study to generalize results across subjects and settings. This study examined the treatment conditions on a small group of learning disabled students. Hence, conclusions about the success of the interventions can only be made within this specific group of single subjects. Further work would need to be done to generalize data to a larger group of individuals. Replication with more subjects to get a broader picture for students with different ability levels, grade levels and learning styles is warranted.

Generalization across settings was also not possible given the scope of the project. It would be interesting for further analysis to extend the study to other Community
School classrooms and to compare the same student, Ted, in both the incarcerated and the regular school setting. It is also very difficult to generalize the results of this study to the larger classroom setting given that the students were receiving a reading intervention in the 1:1 teacher/student format.

It is also unclear whether true reading growth has occurred outside of the research parameters and into the core curricular setting. Students in this study were only exposed to the “Read Naturally” curriculum to measure fluency and reading comprehension. Although reading gains occurred, as measured by progress in the “Read Naturally” curriculum and Ekwall Reading Inventory results, it is impossible to generalize those gains to the general classroom setting where students are immersed daily in the core curriculum. It would have been interesting to track student reading progress in their general education classrooms to determine if true maintenance of reading gains transferred into that setting after they had participated in the study. The other question that persists in my mind has to do with the passage characteristics of the “Read Naturally” curriculum and whether similar results would have been obtained with different reading passages or a different reading program.

This study is also limited by multiple treatment interference. This refers to the possibility that the effect of one intervention might be influenced by the other intervention with which it is juxtaposed. Ted always performed better with the second reading, irregardless of which intervention was used. Bob consistently performed worst with the second treatment, no matter the intervention. Both Ray and Mac demonstrated consistent improvement with the second treatment time, regardless of the intervention. It
would be interesting to repeat the study, alternating treatments in a different sequence and compare those results with the current study. This would eliminate the concern that interference might have been an issue.

Finally, this study took place over a relatively short time period. All four students continued to need reading intervention at the end of the study. Replicating the research over a longer time period would help to determine whether students could get to a point where reading intervention was no longer needed. Extension of the maintenance phase with more frequent probes that includes reading material from the core curricular areas might provide valuable insight into the permanence and sustainability of the reading intervention.

**Implications for Future Research**

Although the outcomes of the interventions were positive for the student participants, it should be noted that the less-skilled reader (the student) was paired with a trained teacher in a one-to-one situation. It has been noted in previous research that students can make substantial reading growth with a peer-tutor, paraprofessional or parent (Elbaum et al, 2000; Foorman & Torgesen, 2001; Mathes et al, 2003; Rashotte et al, 2001; Vaughn et al, 2001). With budget constraints and monetary concerns, it would be cost-prohibitive for many schools to implement a one-to-one reading model with a trained teacher. Future research focusing on the effectiveness of trained tutors, paraprofessionals and parents on the reading growth of the learning disabled student,
especially in the alternative educational setting, would significantly add to the body of work that exists on the teaching of reading to the at-risk reader.

Exploring the success or lack of success with paired reading interventions that focused on other reading pairs (in particular student partners and peer-tutors) would also be warranted. Creative pairing of student readers can be beneficial on several levels. First, it can raise the self-esteem and motivation of the students and second, it can be a cost-effective strategy for schools experiencing financial concerns. It would also be of benefit to explore the teacher-student relationship and determine how valuable that relationship is to the facilitation of successful reading outcomes.

Research on engaged reading time would be of great value to the knowledge that we have on effective reading interventions for the older, at-risk student. It may not have been the specific reading intervention that resulted in positive outcomes for the study participants, but rather the fact that they received 30 minutes additional reading practice every day. Studies comparing and monitoring reading engagement time and how that time affected both fluency and comprehension would be valuable in our understanding of what factors are significant in fostering reading success for these students.

It would be beneficial to broaden the scope of the intervention types, examining specific scaffolding techniques, vocabulary development, sight word recognition and phonics, to see if similar results could be obtained with other strategies (Daqi & Nes, 2001; Vaughn et al, 2000). It would also add considerably to the body of reading intervention research if one could determine how improving reading fluency contributes to greater success with reading comprehension. And finally, research exploring whether
the academic benefit is the same whether in the small group setting or a one-on-one situation is warranted; this in light of the tight budget climate for most school districts.

Lengthening the study over different settings with a more diversified student base would allow for greater generalization beyond the scope of a single-subject research design (Therrien, 2004). Examining student success in the core curriculum would also be very valuable information to explore. Currently, little transfer of reading success from this study into the general education classroom was noted. An important question to answer would be the issue of transference over a wide-range of settings, especially noting the difference or lack of difference in student success between their independent reading level (which served as the base from which to operate in this research) and their instructional reading level (primarily used to teach the core-curriculum).

**Implications for Educators**

The learning disabled student is an individual who possesses very specific learning needs. As educators, we need to be reminded of this uniqueness and treat each student accordingly. For some, we need to intensify the treatment and broaden the scope of our teaching. Using a wide variety of research-based programs and reading strategies would help us to work with these older students who learn in very different ways (Greenleaf et al., 2002). We also need to be reminded of the importance of fluency training for the older student and the value of providing our most at-risk readers with the additional time spent practicing reading every day.
As educators we must provide our learning disabled students with accessible, high interest reading material. Involving the student in print selection will improve student interest and motivation. As student practice reading what interests them, fluency gains will occur and reading comprehension will improve. These students also benefit from daily paired reading practice in a wide-variety of curricular areas (Rasinski et al, 2005).

How teachers interact with reluctant readers is extremely important. These students thrive in an atmosphere that fosters explicit instruction and accommodations to meet their individual learning needs. Instruction that is predictable, consistent and sequential benefits these students, not only in reading, but across the content areas as well. Teachers need to also remember that creating a safe environment where students are encouraged to take risks will enable their students to view themselves as competent readers.

Learning disabled students, as evidenced by my research, thrive in the one-to-one setting with a trained teacher. As these students became more confident in their reading skills, they not only increased their fluency rates, they also made significant gains in reading comprehension. Teachers should be encouraged to provide some one-to-one time every day for their most at-risk readers. That time should be set aside to focus on the implementation of reading interventions designed specifically to meet their individual needs. If one-to-one time is not possible due to either time constraints or budget concerns, tutors or paraprofessionals could be trained to carry out the reading intervention time.
Another consideration for educators is to teach students strategies that will help them to be more successful reading across the core curriculum. When teachers are open to the messages that the students are giving them, they can select specific interventions tailored to meet the needs of those students. To make improvements in adolescent literacy, teachers, not materials or methods, have been shown to make the most difference for student success (Fischer & Ivey, 2006). This has implications for today’s educational climate that appears determined to spend monies on curriculum and materials, rather than on training teachers in best reading practices.

Final Thoughts

Today’s teacher is faced daily with hectic schedules, state and federal mandates and classrooms that have become more complex and diverse. To help their struggling readers attain success, teachers must find a way to provide the additional reading instruction that will help these students become competent readers.

My research demonstrates that 30 minutes additional time spent implementing a reading intervention designed to meet individual learning needs was effective in improving reading outcomes for a select group of learning disabled students. The experience gave these students an opportunity to gain the reading skills they needed to succeed in their educational careers.

The unique characteristics of paired reading and guided oral reading contributed to the positive outcomes observed in these less-skills readers. This included successful one-to-one interactions with a trained teacher, a safe environment that nurtured risk-
taking, promotion of reader engagement, extended practice and daily monitoring of student progress. The intervention was effective for all four student participants, resulting in significant gains in both fluency and comprehension.

As we find in single-subject research designs, more in-depth studies need to be done to strengthen validity (Kazdin, 1982). Generalization to the broader community of the older, at-risk student is impossible from this vantage point. What my research does reveal is that the potential for increasing reading success in the struggling learning disabled reader may be as simple as 30 minutes of additional intervention time spent in a one-to-one setting with a teacher trained in best reading practices.
REFERENCES


Dear Parent:

Your student has been selected to participate in a research study that I am completing as part of the requirement for my Masters Thesis in Education at Humboldt State University. The referral was made to me by his/her classroom teacher who is concerned that your student is struggling with the reading process. The project that I am proposing to do will address the issue of reading and how to best meet the needs of struggling readers. This project will take place during the regular school day and be a part of your student’s reading program for 8 weeks.

There are two parts to this proposed study. Students will first be asked to respond to a questionnaire which is designed to determine their attitudes about reading. The second part of the study will be an eight week research design that will compare two reading interventions on their reading fluency and comprehension. I will also be calling you informally to ask you specific questions about your student’s reading. This information will be included as data for my study. Students will also be tested in reading using classroom based assessments prior to and at the end of the eight weeks.

There are no anticipated or known risks from participating in this study. I am considering the length of their school day and how time spent away from their classroom may interfere with their studies. For this reason, I will be implementing the study during the regular classroom reading time. The benefits to the student are many. They will be receiving one to one instruction in two reading interventions that have proven to be successful in other settings. They will also be learning about their own strengths and challenges in the area of reading.

Confidentiality will be maintained throughout the study. Students participating in this study will be described using a pseudonym of their own choosing. I will be keeping all collected data in a locked filing cabinet located at my Glen Paul office. Paper records will be transferred onto a computer diskette and then shredded. The diskette will also be stored in my office under lock and key. This information will be kept for a specified period and then deleted from the diskette at the end of that time period.
As a Resource Teacher with Community School I see first hand the difficulties our students have with the world of print. My intent with this study is to discover what works best to improve student reading and how to implement what works into the existing curriculum. If you agree to give consent for your student’s participation in this study, please sign this letter where indicated and mail it back to be in the enclosed envelope. Keep the enclosed copy for your records. I look forward to working with your student and having the opportunity to share the project results with you at the end of the study.

Please feel free to contact me at 445-7098, Lmad52@northcoast.com. You can also reach my faculty advisor, David Ellerd, PhD Humboldt State University, at 826-5851, dae11@humboldt.edu.

Sincerely,

Laura Madjedi, Community School Resource Teacher

I understand that Laura Madjedi will answer any questions that I may have concerning this investigation or the procedures at any time. I also understand that my student’s participation in any study is voluntary and that I may have my student decline to enter the study or withdraw from it at any time without jeopardy. I understand that the investigator may terminate my student’s participation in the study at any time.

I give consent for my student ___________________________ to participate in Laura Madjedi’s research study. I also give my consent to be interviewed informally by telephone and to have that information included in this research study. Name_____________________________ Date:________________________

I, _______________________________ give my assent to participate in Laura Madjedi’s research study.

Name_____________________________ Date ______________________
APPENDIX B
GUIDED ORAL READING OBSERVATION

Observer Name ___________________________ Date ________________________

<table>
<thead>
<tr>
<th>Step</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student chooses story from the binder.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher reads the title of the story out loud to the student.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Teacher activates the student’s prior knowledge by looking at the picture and talking about it.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Teacher reviews the key words at the beginning of the story.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Student is asked to use each of the key works in a sentence.</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Student is asked to make a prediction about the story</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Teacher and student review what the questions will be at the end of the story.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Teacher reads the story out loud while the student follows along, pausing after each paragraph to summarize the content of that paragraph.</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Student reads out loud to the teacher for one minute.</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Teacher determines the words per minute read by the student.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Student graphs the results of the timed reading with a blue marker (cold reading score).</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Student practices reading the story 2-3 times.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Student reads out loud to the teacher for one minute.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Teacher determines the words per minute read by the student.</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Student graphs the results of their timed reading with a red marker (hot reading score).</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Student responds to the comprehension questions at the end of the story.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Teacher marks the comprehension score on the graph.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Student then completes the story retell, using a minimum of three sentences to describe the story.</td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>
**APPENDIX C**
**PAIRED READING OBSERVATION**

Observer Name ___________________________ Date ___________________________

<table>
<thead>
<tr>
<th>Activity</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student chooses story from the binder.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student silently reviews story.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student reads out loud to the teacher for one minute.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher determines the words per minute read by the student.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student graphs the results of their timed reading with a blue marker (cold read).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher reads story out loud to the student while he/she follows along.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student practices reading the story to the teacher 2-3 times.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student reads out loud to the teacher for one minute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher determines the words per minute read by the student</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student graphs the results of their times reading with a red marker (hot read).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student responds to the comprehension questions at the end of the story</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher marks the comprehension score on the graph</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D
PRE-INTERVENTION QUESTIONNAIRE

As part of her research project for Humboldt State University, Laura Madjedi would like you to respond to some questions about your reading habits. Please answer honestly.

1. What do you like to read at home and at school?

2. What do you like about reading? What don’t you like about reading?

3. What has been difficult about reading for you?

4. When did you first start having problems with reading?

5. What have teachers done to help you with your reading?

6. Is reading important to you? Why?

7. What strategies do you use to help you with your reading?

8. What do you think you will gain from participating in this research project?
APPENDIX E
POST-INTERVENTION QUESTIONNAIRE

As a follow-up to her research project for Humboldt State University, Laura Madjedi would like you to respond to some questions about your participation in the project and feelings regarding the reading interventions. Please respond honestly.

1. How did you like being part of a research project?

2. What was the best part of the project? The worst part?

3. How did participation in the project help you to become a better reader?

4. Which intervention did you like best? Why?

5. How could these interventions be used in your classroom to help other struggling readers?

6. Would you like to see interventions like these used in your classroom?

7. Did participating in the project make you want to read more? Why?

8. Other comments: