

A LITERATURE REVIEW OF PEER-MEDIATED LEARNING STRATEGIES FOR  
SECONDARY EDUCATION

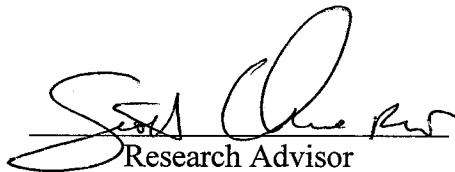
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ABSTRACT

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Illiteracy is a growing problem for secondary education. The United States Government has recently introduced two new bills into legislation focusing on the problem with the increased number of high school dropouts and students reading below grade level. In the meantime, schools are implementing strategies that focus on improving reading in secondary education. Researchers and members of the education community have suggested a method that has assisted students struggling with reading. Peer tutoring uses collaboration with peers and teachers to facilitate reading in the classroom. Not only does peer tutoring decrease one on one time that a teacher often needs to spend with struggling students, but it allows students to learn from each other (Bender, 2002).

Two peer tutoring strategies that have been implemented in schools are Class Wide Peer Tutoring (CWPT) and Peer-Assisted Learning Strategies (PALS). PALS is a modification for CWPT and has been used with students in secondary education. PALS

focuses on essential characteristics for reading: phonological awareness, decoding, and reading comprehension. This literature review focused on the importance of continued literacy programs for secondary education, peer tutoring, and studies of PALS effective for secondary education. The review also focused on limitations of the study that could be addressed in future research.

## TABLE OF CONTENTS

|  | Page |
|--|------|
| .....  |      |
| ABSTRACT.....  | ii   |
| INTRODUCTION .....   | 1    |
| <i>Purpose of the Study</i> .....                              | 5    |
| <i>Definition of Terms</i> .....                               | 5    |
| REVIEW OF THE LITERATURE .....                                 | 7    |
| <i>Introduction</i> .....                                      | 7    |
| <i>No Child Left Behind Act</i> .....                          | 7    |
| <i>Importance of Reading for Educational Achievement</i> ..... | 9    |
| <i>Criteria for Successful Literacy Program</i> .....          | 12   |
| <i>Models of Peer-Tutoring</i> .....                           | 13   |
| SUMMARY AND RECOMMENDATIONS.....                               | 20   |
| <i>Effectiveness of PALS</i> .....                             | 20   |
| <i>Limitations</i> .....                                       | 21   |
| <i>Recommendations</i> .....                                   | 22   |

## CHAPTER ONE

### INTRODUCTION

Literacy demonstrates the ability to use skills needed to read and write, and affects an individual's life from childhood through adulthood. While the nation continues to focus primarily on early childhood education from kindergarten through third grade, a vast number of individuals are being left behind. The individuals are students in our nation's middle schools and high schools. It is important to recognize that illiteracy among youth and adults is a problem and that programs need to be developed and implemented to assist youth in reading.

Society often believes that students learn the basics of reading in elementary school and build on those skills throughout middle school and high school. However, a vast amount of evidence supports problems with literacy in many aspects of our high schools. More than 5 million students do not read well enough to comprehend materials at the appropriate grade level (Hock & Deshler, 2003). Twenty-six percent of students with accommodations demonstrated below basic reading proficiency in grade 12 (National Center for Education Statistics, 2002). Students often pass under the radar for reading difficulty by faking their way through assignments (Alliance for Excellent Education, 2004). Many of these students drop out or leave school without the necessary skills to obtain meaningful employment or manage daily finances (Fuchs & Fuchs, 2004).

Therefore, the issues continue to affect poor readers into adulthood. According to Fuchs and Fuchs (2004), twenty-five percent of adults in the United States are illiterate. Adams (as cited in Fuchs and Fuchs, 2001) described illiterate individuals as representing 75 % of the unemployed population, 33 % of mothers receiving aid to families of

dependent children, and 60 % of incarcerated adults. Illiterate adults do not have the necessary skills to do such things as reading a note sent home from school or reading the directions on a medicine bottle (Riley, 1996). As illustrated, poor reading skills often cause difficulty into adulthood.

Although evidence clearly illustrates the prevalence and problems associated with illiteracy, the United States legislation has not until recently recognized the need for literacy programs for middle school and high school students. Legislation currently recognizes the need for early intervention for reading. The Reading First Initiative focuses on creating programs for children from kindergarten through third grade. This initiative was developed to provide assistance through federal funding to select effective reading programs and to provide various assessment measures to assess for progress with the designated reading programs (International Reading Association, 2004). The Reading First initiative also requires that all state and local governments create programs to ensure every child is reading by the third grade (U.S. Department of Education, 2004). The NCLB also states that all state and local governments will set high standards of achievement and be accountable for K-12 education.

Although little funding is currently available for students sixth grade and beyond, several initiatives have recently been proposed that would include funding for middle and secondary education. Recently, congress has introduced a bill called Pathways for All Students to Succeed (PASS). PASS focuses on three initiatives: Reading to Succeed, Pathways to Success, and Supporting Successful High Schools (Alliance for Excellence Education, 2004). Reading to Succeed is a 1 billion dollar grant program that will use research to implement interventions for grades 6- 12. The initiative uses a literacy coach

that would be hired by school districts to assist teachers in developing literacy programs within the curriculum, assess for student progress, and assist with various testing procedures (Alliance for Excellent Education, 2004). The Graduation for All Act, H.R. 3085, is another bill that would provide \$1 billion dollars in federal funding to place literacy coaches into schools to implement graduation plans for students at-risk for dropping out of high school (2004). The literacy coaches will be placed in secondary education settings in which there are low graduation rates. Although programs are being implemented by United States legislation, schools can use interventions that are currently available to assist students who are having difficulty with reading.

Researchers and members of the education community have suggested a method that has assisted students struggling with reading. Peer tutoring uses collaboration with peers and the teachers to facilitate reading in the classroom. Not only does peer tutoring decrease one on one time that a teacher often needs to spend with struggling students, but it allows students to learn from each other (Bender, 2002). Some tasks that a peer tutor can accomplish with students are the following: checking over assignments, listening to oral reading and giving corrective feedback, assisting with using references such as the dictionary, and monitoring group projects (Bender, 2002).

Two methods that have been researched and recommended by the United States Department of Education are Class Wide Peer Tutoring (CWPT) and Peer-Assisted Learning Strategies (PALS). CWPT and PALS allow students to take on two roles; they act as a tutor and tutee. Therefore, CWPT and PALS make it very difficult for students to be put down because of their roles and responsibilities as tutor and tutee (Fuchs, Fuchs,

Mathes, & Martinez, 2002). According to Bender (2002), research reports positive results for the tutee as well as the tutor.

During CWPT, students are paired with partners and each pair is assigned to competing teams. Each student acts as a tutee and tutor; tutees earn points by responding correctly to activities given by the tutor. The team with the most points wins. CWPT results in increased on-task behaviors and students work with problems consistently and rapidly. (Bender, 2002). Because the tutoring system evolves around a team atmosphere, CWPT allows for students to learn from each other; it also strengthens social interaction among peers (Fulk & King, 2001).

Peer Assisted Learning Strategies (PALS) is a second form of peer tutoring. PALS is a modified version of CWPT; however, PALS may use an informal assessment measure such as Curriculum Based Measurement to measure a student's progress. Peer-Assisted Learning Strategies (PALS) involves three strategies: partner reading, paragraph shrinking, and prediction relay. Students are paired with classmates with one higher reader and one lower reader. Each pair completes 10-15 minute activities in the classroom (Fuchs & Fuchs, 2004). An example of a PALS activity is called paragraph shrinking. The tutor assists the tutee in determining the main idea of the passage. The tutee then restates the main idea (Archer, Gleason, and Vachon, 2003). The activity builds on fluency and reading comprehension. According to Bender (2002), "research on the effectiveness of PALS provides convincing support for its superiority compared to conventional general education instruction in reading and math" (p. 114).

As previously mentioned, curriculum based measurements (CBM's) are informal assessment measures for reading, math, spelling, and written expression. CBM's are



composed of 1-3 minute fluency tests that measure how many words read, math computations completed accurately, and words written and spelled correctly (Shinn & Hubbard, 1992). According to Shinn and Hubbard (1992), CBM's use three strategies to determine if students are making progress in reading: goals without local norms, dynamic aim, and instructional placements. The goals without norms focus on the student's perceived expectation of how the student will perform for the entire year. The dynamic aim focuses on the student's rate of progress in which there is a goal line and the rate is adjusted depending on the student's progress. The instructional placements focus on annual goal levels for curriculum (Shinn & Hubbard, 1992). CBM's can be used along side of PALS to determine whether students are progressing at their desired reading level (Fuchs & Fuchs, 2004).

### *Purpose of the Study*

The following paper will focus on current legislation for literacy, the importance for continued support for secondary education programs in reading, and the effectiveness of peer tutoring models as interventions for reading. Because of its effectiveness with students in secondary education, specific information on PALS will be included in the paper.

### *Definition of Terms*

Literacy: "an individual's ability to read, write, speak in English, compute and solve problems at levels of proficiency necessary to function on the job, in the family of the individual and in society" ("Relationship between Reading," ¶ 2).

No Child Left Behind (NCLB): act passed in 2002 that redefines what the federal government's role is for K-12 education.

Reading Fluency: the ability to read quickly, accurately, and with appropriate expression (Alliance for Excellent Education, 2004).

Reading Comprehension: understanding the context in written text (Alliance for Excellent Education, 2004).

Vocabulary: understanding the definition of words (Alliance for Excellent Education, 2004).

## CHAPTER TWO

### REVIEW OF THE LITERATURE

#### *Introduction*

This chapter will discuss the importance of continued literacy development for secondary education. The discussion will include current legislation for reading with the No Child Left Behind Act (2002), research on the effectiveness of continued reading instruction, criteria needed for an effective adolescent literacy program, peer tutoring models, and Peer Assisted Learning Strategies (PALS). The students included in the discussion will be students who are low performing in reading and students with learning disabilities.

#### *No Child Left Behind Act*

The No Child Left Behind Act (NCLB), a reauthorization of the Elementary and Secondary Education Act (ESEA) of 1965 was signed into law by President George W. Bush in 2002 (No Child Left Behind, 2002). The program was designed to accomplish four ideas for the future of education. First, states must be accountable for the yearly progress of reading and mathematics for students. States will be accountable through reading and math assessments that will be conducted annually for grades 3 through 12. Second, the NCLB will allow for increased flexibility for state and local elementary and secondary education programs such as Innovative Programs and Improving Teacher Quality State Grants (No Child Left Behind, 2002).

Third, NCLB allows for the use of research based educational practices. Reading First and Early Reading First are two reading programs currently implemented in NCLB; they are designed to eliminate reading deficits. Reading First was designed to improve

reading instruction for kindergarten through 3<sup>rd</sup> grade (2002). Early Reading First was designed to create early child hood centers for children birth through pre-kindergarten to focus on language development and reading skills (2002). However, the third item discussed in the NCLB lacks assistance for secondary education. Because legislation has begun to see the need for programs in secondary education, another program that would benefit students in secondary education has been proposed, entitled Striving Readers. Striving Readers is a proposed program that would offer \$100 million in grants to develop, implement and evaluate reading interventions for middle and high school students who are performing at “below basic” (“Focus on No Child Left Behind,” 2004, ¶ 5) proficiency levels. The students reading below grade level are at-risk for dropping out of school (No Child Left Behind Act, 2002). Finally, parents will be allowed more choices with their child’s education. For example, if the child is not meeting the state standards, the parent has the choice to move the child from a public state school to a private school.

Although Striving Readers has been proposed for NCLB to increase the assistance for middle and high schools, a problem arises due to the lack of information of proven programs for secondary education. The program would be funded under the ESEA Section 1502 where intervention would be assessed to determine effectiveness and implement programs into the school (No Child Left Behind, 2002). In the meantime, research needs to be conducted and evaluated to assist with the lack of information on successful intervention programs for secondary education.

### *Importance of Reading for Educational Achievement*

According to the Reading First of the NCLB (2002), reading can be defined as the following:

a complex system of deriving meaning from print that requires all of the following: (a) The skills and knowledge to understand how phonemes, or speech sounds, are connected to print; (b) The ability to decode unfamiliar words; (c) The ability to read fluently; (d) Sufficient background information and vocabulary to foster reading comprehension; (e) The development of appropriate active strategies to construct meaning from print; and (f) The development and maintenance of a motivation to read (“Relationship between Literacy,” 2004, ¶1).

According to Stanovich and Cunningham (2003), children who read more have greater vocabulary and better cognitive skills. “Even students with limited reading and comprehension skills will build vocabulary and thinking skills through reading” (2003, p. 2). However, it may not be that easy for struggling readers to have the motivation to begin to read more and read for enjoyment.

The problems confounds as Stanovich (1986) described the phenomena of the “rich-get-richer,” or “Mathew Effect” (p.381). If a child reads more, the more vocabulary and meaning of words are gained; therefore, the child can read more accurately and comprehend the material (1986). However, struggling readers have the opposite effect with reading. Struggling readers read less frequently and without enjoyment; therefore, the student develops weaker vocabulary and reading ability is hindered (1986). The achievement gap increases. Not only do struggling readers lack motivation and ability for reading, they lack the environments conducive to becoming

better readers. Often these students come from lower socioeconomic backgrounds and are “often exposed to inferior ability composition in the schools that they attend” (p. 383).

To further illustrate the relationship between reading and academic achievement, the skills necessary to comprehend materials within secondary text will be discussed. For struggling secondary readers, decoding, fluency, vocabulary, and reading continue to be a problem. Because of the inefficient or lack of these skills, struggling readers are reading between 2<sup>nd</sup> and 5<sup>th</sup> grade levels (Archer, Gleason, & Vachon, 2003).

First, struggling secondary readers lack efficient decoding skills. They are able to decode one-syllable words; however, multi-syllable words become increasingly difficult. (Archer et al., 2003). Most of these students lack adequate decoding skills and the confidence to read the unrecognizable word. With inefficient decoding skills, they also have difficulty gaining knowledge of the word through surrounding contextual clues which could assist in understanding necessary vocabulary (Saenz & Fuchs, 2002). Understanding the complex words is crucial for understanding the material, and if the words can't be read, the material becomes unlearned (Archer et al., 2003). Phonemic awareness assists students with the decoding of words and increases reading comprehension. Decoding a word accurately allows for “effective word reading” (National Reading Panel, 2000, p. 2-5).

Another aspect that affects reading comprehension is fluency. Fluency requires efficient word recognition so the reader can gain meaning from the text with little conscious effort. Reading is an automatic cognitive process (National Reading Panel, 2000). Fluency assists reading comprehension because the student does not have to

consciously interpret every word. Students who lack reading fluency begin to lack meaning from previously read materials (2000).

Vocabulary is third component that affects reading comprehension for secondary students. According to the National Reading Panel (2000), as a student reads, the words become part of the reading vocabulary. The reader begins to decode the unfamiliar words that were read into speech. After decoding, the word is entered into the reader's oral vocabulary. However, when the word is not in the student's oral vocabulary, the student will not understand the words that are presented in the text. "Reading vocabulary is crucial to the comprehension process of a skilled reader" (p.4-3).

Due to the lack of reading comprehension, Archer et al. (2003), describe some of the consequences that struggling readers often face,

1. Often struggle with coursework
2. Chance of dropping out of high school increases
3. Number of job opportunities decrease that would adequately support themselves and their families
4. Chance of having social/emotional problems into adulthood increases
5. Chance of continuing with post-secondary education decreases

Without adequate and efficient reading skills, struggling secondary readers face many consequences that will affect their lives into adulthood. Programs need to be implemented while they are in high school; therefore, these struggling students can improve their skills and improve their chances for future success.

### *Criteria for Successful Literacy Program*

Because a proportionate number of students in middle and secondary education continue to struggle with basic reading skills such as decoding, fluency, comprehension, and vocabulary, schools must develop literacy programs that continue to teach these skills. Motivation for reading will also be discussed within this section.

In order to get students to read and enjoy reading, especially for struggling students, motivation will be addressed. Motivation becomes a key factor for students in middle school and high school (Alliance for Excellent Education, 2004). The focus for motivation should be that the students want to read instead of being forced to read. Focus on the idea that reading is a useful way to gain knowledge for things that may interest the student. Another factor that may increase motivation is a cooperative learning environment. The environment promotes an atmosphere for discussion and socialization with classmates (2004).

Repeated reading and guided reading are two tasks that may facilitate increased fluency for students. Repeated reading is an activity in which the student reads and rereads increasingly difficult passages (Alliance for Excellent Education, 2004). Because many students who struggle with reading feel embarrassed in front of classmates, repeated reading allows for the student to practice and gain skill (Bender, 2002). Research also suggests that students with learning disabilities improve oral reading fluency with repeated reading activities (Bender, 2002). During guided reading, the student is given feedback for errors (Alliance for Excellent Education, 2004).

A third component for an effective program is addressing vocabulary expansion. Strategies should be designed that assist the student in identifying new words and using



surrounding context to understand unfamiliar words (Alliance for Excellent Education, 2004). Some helpful strategies to increase the use of vocabulary are the following: repetition of unknown words and computer technology.

Along with vocabulary, reading comprehension strategies should be addressed within the school's literacy program. Classroom activities should be designed to provide an atmosphere so students can develop questions and formulate answers about what they've read in class. Not only does this allow for class facilitation, but it also allows students to become engaged in what they're reading (Alliance for Excellent Education, 2004). Also, teacher modeling assists the reader in the needed strategies for reading comprehension (National Reading Panel, 2000). Mnemonics, prior knowledge, and multiple strategies are some other activities useful for assisting students with problems in reading comprehension (2000).

Finally, phonemic awareness should be addressed within adolescent youth programs. The process involves decoding text into sounds. Direct instruction is a strategy often used with phonemic awareness (Alliance for Excellent Education, 2004). Some other components that should be include are instruction on sounds and their spelling such as "ph", "ing", and "ion" (p.3) and practice words and their meanings in context (2004). Because these are skills that research have shown to be of difficulty for adolescent readers, it is important to address these components within the development of literacy programs in schools.

#### *Models of Peer-Tutoring*

Peer tutoring is a measure that allows for collaboration and socialization between students. It allows for teachers to have more classroom time and students can learn from

teaching other students (Bender, 2002). Peer tutoring programs are designed for students to tutor one another through a tutor /teacher relationship. Often the roles are reversed in a strategy called reverse-role tutoring. Although little research had been found with reverse-role tutoring, students have illustrated benefits; the student's abilities rather than disabilities are highlighted (Tournaki & Criscitiello, 2003). Peer tutoring allows for immediate corrective feedback allowing for an increase in contextual understanding from the reading (Juel, 1996).

Peer tutoring strategies also focus on self-esteem. The strategies allow students with disabilities to take on a more positive role in which they are observed as mentors and peers to other struggling students (Tournaki & Criscitiello, 2003). In a study by Juel (1996), the tutors stated that they felt an increase in motivation and self-esteem compared to their not tutoring classmates.

Several models of peer tutoring exist within educational settings such as Cooperative Integrated Reading and Composition (CIRC), Reciprocal Teaching, Class Wide Peer Tutoring (CWPT), and Peer-Assisted Learning Strategies (PALS). However, CIRC and Reciprocal Teaching have several drawbacks that make it very impractical for the classroom teacher (Fuchs & Fuchs, 2001). CIRC requires teachers to invest a lot of extra time into the program, and requires schools to make and use their own materials (2001). With all of the demands put on teachers, the strategies should be easy for teachers to use. Reciprocal Teaching is difficult for teachers to master. In order to provide the most efficient strategies for teachers, Class Wide Peer Tutoring (CWPT) and Peer Assisted Learning Strategies (PALS) have been seen as more teacher friendly. CWPT and PALS have been developed as peer tutoring strategies that require less work

from the teachers, more facilitation among students, and they are easier to understand and teach than CIRC and Reciprocal Teaching.

Class Wide Peer Tutoring (CWPT) was developed at the Juniper Gardens Children's project as a "result of efforts to improve instruction for minority, disadvantaged, and/or learning disabled children" (Delquadri, Greenwood, Whorton, & Carta, & Hall, 1986, p. 535). This program was designed to improve the following procedures and principles in the classroom: opportunity to respond, academic skills, and behavioral procedures (Delquadri et al., 1986). To better understand the peer tutoring model of CWPT, the principles and procedures of CWPT will be discussed.

The first principle, opportunity to respond, is based upon the premise that learning involves two factors that are essential for achievement in the classroom (Delquadri et al., 1986). The two factors are the environmental factors (e.g. time set aside for instruction, curriculum, and assigned tasks for students) and the amount of time a student can respond within the instruction (1986). In a study with a fourth grade student, the student was given very little opportunity to respond within the allocated class time. Because he was only reading at first grade level, he was subsequently placed in a classroom for students with Learning Disabilities (LD). Within a short period of time in the LD classroom (2 weeks), he went from reading 15.2 words per minute to reading 47.5 words per minute. He was soon reading at the 5<sup>th</sup> grade level (1986). Class Wide peer tutoring allows adequate time for each student because he or she is reading with peers and allocated amount of time is set aside for reading. CWPT has been shown to increase a student's academic success from 20% to 70% (Delquadri et al., 1986).

Academic skills to determine a student's progress is another contributing component to CWPT. Some skills that CWPT have been used with are the following: textual oral reading, responding to comprehension questions, using workbooks for reading practice, practicing spelling with spelling lists, and practicing vocabulary (Delquadri et al.,1986). CWPT is most effective with the use of materials from the school district and skills involved with the school's curriculum.

The third component to CWPT is behavioral procedures. CWPT is contingent on behavioral procedures such as social and token reinforcement, peer-mediated contingencies, and posting feedback on individual and group performances (Delquadri et al., 1986). The reinforcement arranged between teacher and student is very important. It allows for individual recognition through immediate praise. Peer-mediated contingencies are established by dividing the class into teams, and the team with the highest score at the end of the week is the "team of the week" (1986, p. 538). Finally, posted feedback gives students a concrete way of viewing progress. Points are posted weekly and each student can see how they are contributing to their team.

Class Wide Peer Tutoring procedures have been used in a variety of settings such as "resource rooms, self-contained LD, educable mentally retarded (EMR), and behaviorally disordered (BDI)" (Delquadri et al, 1986, p. 538). The procedure takes approximately 40 minutes and occurs three times per week (Fuchs & Fuchs, 2001). Because CWPT allows for the tutee and tutor to switch roles, each student is allotted 10 minutes for reading. Each student asks comprehension questions about the text (2001). The rest of the time is used for posting points and feedback.

Teams are chosen based on random assignment and teams are reassigned weekly so each student gets an opportunity to be on the “winning” team at some point. (Delquadri et al, 1986). However, it is important to make sure that the pairs are socially compatible (Fulk & King, 2001). Points are awarded by the following criteria: two points for the tutee for reading the sentence without errors and one point for the tutor for correcting the error.

Research has indicated positive results for CWPT. CWPT students in middle school and high school have had continued success on achievement tests such as the California Test of Basic Skills in reading, math, and language (Greenwood & Delquadri, 1995). The strategy keeps students “actively on task” (Fulk & King, 2001, p. 51). Serving as a tutor is beneficial to low achieving students because it improves self-esteem and social skills (2001).

A second model of peer tutoring is Peer-Assisted Learning Strategies (PALS). PALS were developed by Peabody College at Vanderbilt University in cooperation with the Nashville-Davidson Metropolitan School District in 1991 (“Peer-Assisted Learning,” n.d.). It was initially designed for Title I students, students with Learning Disabilities, and students performing at various grade levels for grades 2-6 (“Peer-Assisted Learning,” n.d.). PALS have extended its use for kindergarten and high school. PALS are a modification of CWPT and include phonological awareness, decoding, and comprehension strategies (Fuchs, Fuchs, & Burish, 2000).

PALS use activities similar to CWPT such as tutor tutee roles and reversal, corrective feedback, and interaction with peers (Fuchs et al., 2000). Teachers often attend a full-day workshop in which they are trained to teach their students how to use

activities in PALS as well as maintain the activity during the sessions (Fuchs, Fuchs, Mathes, & Simmons, 1997). Teachers then use a PALS manual for the specified grade that contains scripted materials to implement the PALS program into their reading curriculum. The sessions are approximately 35 minutes in length (Fuchs et al., 2000). Because PALS are designed to substitute rather than be used as an extension for other reading activities, teachers do not need to set aside extra time to implement PALS into the classroom (Fuchs et al., 2000).

The procedures for PALS are similar to CWPT in which students are divided into pairs; however, the activities of reading and comprehension are expanded into the following areas: partner reading, paragraph shrinking, and prediction relay. Each student is paired by selecting a higher achieving student with a lower achieving student in reading (Fuchs et al., 2000). The higher performing student always begins as a tutor in order to serve as a mentor for the lower performing student (2000). As with CWPT, the pairs are divided into two teams. Students gain points for their team by performing the activities correctly and demonstrating adequate behavior during tutoring (2000). At the end of the week, team performances are summed and the team with the most points is given the title of “winner” for that week. For grades 2-6, teams and pairs are reselected every 4 weeks; however, due to motivation differences, high school PALS’s teams are reselected more frequently and will be discussed further (Fuchs et al., 2000).

The activities of PALS are partner reading, paragraph shrinking, and prediction relay. Partner reading is the first activity for PALS. The tutor, the higher performing student, begins oral reading for the first 5 minutes; the roles are then reversed with the tutor providing corrective feedback (Fulk & King, 2001). Paragraph shrinking focuses on

improving reading comprehension. Students state who, what, and where for the reading and describe the main idea in 10 word or less (Fulk & King, 2001). The final activity for PALS is prediction relay. Prediction relay allows for the students to look at what is happening next in the reading (2001).

The PALS extensions for high school have similar activities and procedures as the 2-6 grade PALS; however, they differ in three ways. As mentioned earlier, teams and pairs are reselected more frequently (i.e., every day, rather than every 4 weeks for grade 2-6 PALS) (Fuchs & Fuchs 2001). According to Fuchs and Fuchs (2001), high school students tend to enjoy interaction with various peers rather than interaction with the same peers. The second difference is that motivational systems appear to be different for older students. Therefore, the motivations became more tangible. The student's rewards often lead to gaining such things as compact discs and fast food coupons (2001). Finally, high school PALS differ from 2-6 grade PALS in the reading materials used. The reading materials are more directed towards such things as life skills, social relationships, and employment opportunities (2001). "PALS have been awarded best practice status by the U.S. Department of Education Program Effectiveness Panel" (p.5).

## CHAPTER THREE: SUMMARY AND RECOMMENDATIONS

### *Effectiveness of PALS*

Since 1991, Peer-Assisted Learning Strategies (PALS) has been researched on its effectiveness with students and reading. The following section will illustrate various studies that demonstrate PALS effectiveness as well as limitations. The studies compare students of low achievement, low performance, and students with learning disabilities.

In a study by Fuchs, Fuchs, Mathes, and Simmons (1997), the focus was on the reading progress of low achieving students (LA), low performing (LP) students, and average achievers (AA) with reading and PALS. The study investigated the progress of reading between elementary and middle school students who used PALS compared with those who did not use PALS. The study also looked at students and teachers perceptions with the use of PALS.

PALS was used three times a week for approximately 35 minutes per day during a period of 15 weeks (Fuchs et al., 1997). The results of the study indicated that the students from the PALS group made more progress than those students who had not used PALS. Through a questionnaire, teachers illustrated that PALS “had positively affected their LD, LP, and AA students’ reading achievement and social skills” (1997, p. 196). Students expressed that PALS assisted them with their overall reading skills.

A second study looked at the effectiveness of PALS with secondary students in remedial and special education classes (Fuchs, Fuchs, & Kazdan, 1999). Similar to the previous study, Fuchs et al. (1999) used a PALS and no PALS classroom approach. For



the PALS classroom, PALS were implemented five times every two weeks for 16 weeks. The study reported mixed findings for support with secondary students. Students appeared to improve their reading comprehension more than those who had not been introduced to PALS (1999). However, secondary students failed to improve reading fluency and lacked focus of decoding skills.

### *Limitations*

The literature is a review of programs that are available for school districts to use in relation to improve reading deficits for struggling readers. However, the literature only focused on peer tutoring programs and did not discuss other effective measures. Although literature describes the development of PALS as focusing on reading comprehension, reading fluency, and decoding skills, the studies lacked support for improving reading fluency and decoding skills for students in secondary education. Follow up studies could use measures such as Curriculum Based Measurement to focus on the progress of fluency. Also, as curriculum is being selected for the PALS program, decoding activities could be introduced with the PALS high school extensions.

Most of the PALS studies focused on low achieving, average achievers, and students with learning disabilities. The study lacked research on other populations such as students with emotional and behavioral disorders (EBD). Also, the studies had support staff working with the school districts and teachers; a more realistic approach could focus more on individual implementation rather than constant support to make it more available and useful for all school districts.

*Recommendations*

Implications for future research might include working with students who have emotional and behavioral disorders. These students often struggle with motivation and illustrate difficulties with academic achievement. Research may include the student's progress and their perceptions of working with other struggling students. Future studies may also want to investigate the effectiveness PALS have without consistent support from outside sources. Manuals, guides, and workshops have been developed with the PALS program. The study might want to get perceptions of teachers who have only had the initial training compared to those who have on-site representatives.

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