

Effects of Peer Tutoring on Student Achievement

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By

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EFFECTS OF PEER TUTORING ON STUDENT ACHIEVEMENT 2

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For the Department of Teacher Education

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Abstract

Peer tutoring is a common instructional strategy used in classrooms. To determine the effectiveness peer tutoring has on student academic achievement; this study investigated the retelling scores of four sixth grade female students, all reading on the same average reading level. This study was conducted over a four week period. Two of the four students involved in the study engaged in a peer tutoring activity as they orally read and discussed a passage together. The remaining two students each individually orally read the same passages. Each of the four students then individually gave a retelling of the passage to the investigator. This procedure took place eight times over the four week period. The results demonstrated higher average retelling scores for the students who were engaged in the peer tutoring activity. These findings indicated peer tutoring as an effective instructional strategy, resulting in higher student achievement.

Chapter One

Introduction to the Study

Many educators are constantly striving to improve their student's classroom achievement. Most elementary school classrooms contain students with a variety of levels of achievement. Throughout my various experiences in classrooms, as both an undergraduate and graduate student working with children in preschool through seventh grade, I have felt firsthand the challenge of finding ways to facilitate the academic achievement of each and every student in each of my classroom experiences. It is extremely difficult for one teacher to meet the needs of each student at one time; there is simply not enough time in a school day to spend individual time with each student every single day. There is an assortment of teaching methods that have been used in classrooms across the country in the past, and some have proved to result in higher student achievement results than have others.

As a graduate student working on my Master's in Education with plans to become an educator in an elementary school classroom, I consider it a priority to explore many teaching strategies. My personal goal is for all of my future students, including higher, average, and lower level learners, to attain a high achievement level. Exploring and implementing different teaching strategies will result in a well-rounded teaching knowledge base; and allow me, as a future educator, to use the methods I have found the most beneficial in producing high student achievement. One classroom teaching strategy I have seen implemented in various situations throughout my classroom experiences is peer tutoring. Peer tutoring consists of two or more students working together; teaching each other rather than learning from a teacher's direct instruction. By implementing peer tutoring as an instructional strategy, classroom teachers are

able to individualize instruction for each of their students; giving all of the students in the classroom the opportunity to be actively engaged in learning at the same time (Greenwood, 1997).

Purpose of the Study

The purpose of this study was to examine the effects of peer tutoring on academic achievement. Specifically, the study examined students' retelling accuracy—a common measure of reading comprehension. The retelling accuracy of students who participated in a peer tutoring activity in which they orally read passages was compared to the retelling accuracy of students who did not participate in the peer tutoring activity. The research question which was considered throughout this study was, “Does one-on-one peer tutoring have an effect on student academic achievement; specifically, retelling accuracy as a measure of reading comprehension?”

This research project has helped to determine the benefit of peer tutoring as an effective teaching strategy. This will, therefore, ideally improve teaching practices in the classroom. Miller and Kohler (1993) describe best teaching practices as the use of instructional strategies which produce significant and continuous student learning. This study also provides support for teaching peer tutoring strategies in university methods classes preparing future reading teachers. Using peer tutoring as a teaching strategy will result in higher achievement for elementary students.

Definition of Terms

There are a few important terms discussed throughout this paper that need to be defined in some depth. The terms that will be defined in this section are: 1. Peer Tutoring, and 2. Retelling. Both peer tutoring and student retelling of passages were involved in this study.

Topping (2005) discusses the definition of peer tutoring as “the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions. It involves people from similar social groupings who are not professional teachers helping each other learn and learning themselves by so doing” (p. 631). Peer tutoring may consist of students of the same learning level working together or students of varying learning levels working together. This can be easily implemented even in a classroom of diverse learners. “The longest established and most intensively researched forms of peer learning are peer tutoring and cooperative learning” (Topping, 2005, p. 632). Topping (2005) discusses the history of peer tutoring regarding the fact it was implemented mainly only in core skill areas such as reading and mathematics. However, its application has expanded throughout the years to a much wider range of subject areas. The peer tutoring activity used in this study involved students of the same reading abilities working together.

The students in this study engaged in retelling of passages in order to measure their reading comprehension. Schisler, Joseph, Konrad, & Alber-Morgan (2010) define retelling as “a strategy that involves restating a story or important elements of a passage that was heard or read” (p. 136). According to Schisler et al. (2010), retelling passages has been shown to increase students’ comprehension of text. This study examined the effectiveness of combining peer tutoring with retelling in order to determine whether peer tutoring has a positive impact on students’ reading comprehension.

Limitations

During this study, two pairs of sixth grade students were examined; one pair which engaged in a peer tutoring activity and one pair who worked individually. The study was

completed over a four week period. The number of participants and the time frame both posed as limitations in this study. A small number of students were examined to determine the effectiveness of peer tutoring. Examining a larger sample of students would provide a more definite conclusion regarding the value of peer tutoring as an effective teaching strategy. Second, the duration of the study could have also been extended in order to examine the retelling results over a longer period of time. Enright and Axelrod (1995) discuss the common necessity of simplifying teaching procedures in order to make them usable in classrooms. Given the time constraints placed on this study, it was only possible to examine the results over a four week time period. Additionally, the students examined in this study were all female; therefore, findings cannot be generalized to both genders.

Chapter Two

Review of Literature

Various research in the past has supported peer tutoring as an effective classroom teaching strategy. The potential positive outcomes of peer tutoring have been further examined throughout this research project. This project consisted of two pairs of students reading passages; one pair which engaged in a peer tutoring activity which involved working together to read and discuss the passage, and the other pair of students who each worked individually to read the same passage. All four students were on the same reading level. After reading, each of the four students individually gave a retelling of the story to the investigator. The accuracy of the retellings were examined to determine whether there is a relationship between peer tutoring and retelling accuracy. The purpose of this study was to examine the research question, “Does one-

on-one peer tutoring have an effect on student academic achievement; specifically, retelling accuracy as a measure of reading comprehension?”

Literature Review

This chapter discusses literature regarding peer tutoring and previous research conducted in various studies in which peer tutoring is used in elementary school classrooms. “The list of benefits that students receive from peer tutoring is quite extensive” (Olmscheid, 1999, p. 3). The benefits of peer tutoring that will be discussed in this section are: 1. Academic benefits, 2. Benefits to teachers through increased student engagement, 3. Social and behavioral benefits, 4. Effectiveness for varying learning levels of students, and 5. Attitude on school and learning.

Peer tutoring can be useful in a classroom for a number of reasons. First, peer tutoring has been shown in multiple cases to increase student academic achievement (Dineen, Clark, & Risley, 1977; Greenwood, 1997; Harris & Sherman, 1973; Kamps, Barbeta, Leonard, & Delquadri, 1994; Kourea, Cartledge, & Musti-Rao, 2007; Olmscheid, 1999; Pigott, Fantuzzo, & Clement, 1986; Simmons, Fuchs, Hodge, & Mathes, 1994; Topping, 2005). Peer tutoring is also beneficial to teachers because it allows teachers to provide all students the opportunity to be actively engaged in learning at the same time, each student working on their own specific level of need, even if there is only one teacher in the classroom (Greenwood, 1997; Harris & Sherman, 1973; Kourea et al., 2007; Olmscheid, 1999). According to Fitz-Gibbon (1988), Kourea et al. (2007), McGee, Almeida, Sulzer-Azaroff, and Feldman (1992), Pigott et al. (1986), Topping (2005), and Webb (1988), not only can peer tutoring help students to achieve higher in school-related tasks, such as the retelling of passages implemented in this study, but it also gives them the opportunity to improve upon other social and behavioral skills such as communicating,

sharing, and cooperating with their classmates; all important proficiencies. It has also been shown to improve students' self-esteem (Miller, Topping, & Thurston, 2010; Olmscheid, 1999). Peer tutoring can be beneficial for not only low achieving or struggling students, but higher achieving or gifted students as well (Dineen et al., 1977; Harris & Sherman, 1973; Olmscheid, 1999; Topping, 2005). Finally, as discussed by Topping (2005) and Webb (1988), peer tutoring has been found to increase students' positive attitudes on school and learning in general. "The potential advantages of employing students as tutors in the classroom for education are numerous" (Harris & Sherman, 1973, p. 597).

Academic benefits.

As reading comprehension achievement is being examined in this study, the benefits of peer tutoring relating to student achievement in academic areas has been examined and discussed in numerous past instances as well. According to Topping (2005), "The research evidence is clear that both peer tutoring and cooperative learning can yield significant gains in academic achievement" (p. 635). Topping (2005) discusses peer tutoring as a way to help students learn content areas more deeply. Peer tutoring can also be beneficial in helping students to retain more information (Greenwood, 2005). In a study conducted by Harris and Sherman (1973), which examined the math performance of two groups of elementary students, one which engaged in peer tutoring and another in which students worked individually, "it was found that the tutored students received better grades at the end of an academic quarter than did students in a matched control group who received no tutoring" (p. 588). Pigott et al. (1986) conducted a study examining the effects of peer tutoring in fifth grade classrooms. Peer tutoring was used in this study by assigning each treatment group of four students a separate role during an arithmetic drill. Each role provided the students the opportunity to work together and by either instructing,

evaluating, or observing each other while completing the activity. This study signified the positive effect peer tutoring has on student achievement as well. Similar studies by Kamps (1994) and Simmons (1994) investigated student achievement regarding reading comprehension and fluency. Both studies' results demonstrated increases in comprehension in groups of students who had engaged in peer tutoring.

Benefit to teachers through increased student engagement.

“One-on-one instructional procedures have been viewed as highly effective for students with diverse needs” (Brewer, Reid, & Rhine, 2003, p. 113). According to Harris and Sherman (1973), “In most public school classrooms, one teacher is expected to provide academic instruction to a group ranging in size from 15 to 40 students” (p. 587). As Harris and Sherman (1973) discuss, in a classroom with this many students, as is the case in many elementary schools, it can be difficult or nearly impossible to provide daily one-on-one instruction for each student due to limited class time. Yet “if there are significant differences in the skills and academic repertoires of the students in the class, a single common instructional method such as lecture may not efficiently meet the academic requirements of individual students” (Harris & Sherman, 1973, p. 587). For this reason, it is a necessity to find a more efficient way of addressing all students' academic needs, and peer tutoring is an efficient method of allowing a teacher to do so.

According to Olmscheid (1999), “By utilizing peer tutoring in the classroom, teachers will ideally be able to teach more effectively” (p. 5). As students work one-on-one with each other, peer tutoring can increase academic engagement in the classroom (Greenwood, 1991; Olmscheid, 1999). Aside from increasing individual attention and student engagement, Levine, Glass, and Meister (1987) discuss the financial benefits of peer tutoring in stating, “Peer learning has also been noted to be among the most cost-effective of learning strategies” (p. 635). “Peer tutoring

gives teachers the opportunity to maximize their instructional influence on the classroom as well as to provide individualized instruction” (Kourea et al., 2007, p. 106).

Social and behavioral benefits.

There are also various social and behavioral benefits which derive from peer tutoring. “Peer learning encourages personal and social development” (Topping, 2005, p. 643). Working with, tutoring, or being tutored by another peer requires students to cooperate effectively with one another (Fitz-Gibbon, 1988). Communication skills can also be enhanced due to peer tutoring experiences (Topping, 2005). Peer tutoring requires both the helper and helped to explain concepts to one another, thus “embodying and crystallizing thought into language” (Topping, 2005, p. 637). Topping (2005) discusses the many valuable communication skills used in peer tutoring, including questioning, listening, explaining, summarizing, speculating, and hypothesizing. Miller et al. (2010), Olmscheid (1999), and Topping (2005) also discuss peer tutoring as an effective way to increase self-esteem in students. Several peer tutoring studies have demonstrated gains in self-esteem (Miller et al., 2010). Extensive literature supports the many advantages of peer tutoring in addition to simply academic gains for students.

Effectiveness for varying learning levels of students.

When regarding peer tutoring, one might ponder whether this teaching strategy would be beneficial for all students or solely those who are struggling academically. However, abundant research and literature support peer tutoring as a useful strategy for all levels of students (Dineen et al., 1977; Harris & Sherman, 1973; Olmscheid, 1999; Topping, 2005). Peer tutoring may involve students of similar or differing academic capabilities working together. In cases where one student is performing academically higher than their peer, not only the tutee, but “the tutor

also receives benefits through peer tutoring” (Olmscheid, 1999, p. 3). Webb (1988) gives examples of some of the benefits the tutor receives as a result of peer tutoring. These examples include reinforcement of the tutor’s own knowledge and skills, building self-confidence and self-esteem, and development of a sense of responsibility. Fitz-Gibbon (1988) agrees as she discusses gifted and talented students’ needs to be assigned significant, thought-provoking, and open-ended tasks such as tutoring. According to Topping (2005), both tutees and tutors can yield significant academic gains through peer tutoring. Harris and Sherman (1973) agree in saying, “The student tutor also may acquire teaching skills and improve his own academic performance as a result of the tutorial experience” (p. 597). In a study conducted by Elbaum, Vaughn, Hughes, and Moody (1999), students with disabilities were found to make gains when acting as peer tutors as well.

Dineen et al. (1977) also discuss the benefits a tutor receives from peer tutoring. In a study which examined the effect of peer tutoring on spelling test scores, the results indicated that tutoring a peer increased the subjects’ spelling accuracy almost as much as being tutored by a peer. Topping (2005) agrees that both tutor and tutee can gain significantly from peer tutoring. He also discusses the benefits of students of similar abilities working together:

Most recently, there has been a great deal more interest in deploying helpers whose capabilities are nearer to those of the helped, so that both members of the pair find some cognitive challenge in their joint activities. The helper is intended to be “learning by teaching” and also to be a more proximate and credible model. (p. 632)

As Topping (2005) supports, peer tutoring provides higher academic achievement gains for all members of the group.

Attitude on school and learning.

Topping (2005) discusses the impact peer tutoring can have on improving students' liking for a subject area in general as well. When discussing the effects of peer tutoring, he states, "Affective changes in attitude to school, the teacher, the subject, peers, and to the self might also be found" (Topping, 2005, p. 641). Webb (1988) agrees that students who engage in peer tutoring activities express improved attitudes towards school and academics.

Summary

Peer tutoring has a lengthy history of success in classrooms (Olmscheid, 1999). Peer tutoring is an effective classroom strategy which is successful in improving student academic performance (Pigott et al., 1986). Additionally, according to Olmscheid (1999), peer tutoring gives teachers the opportunity to teach more effectively. "Time constraints in delivering instruction during the school day make it challenging for educators to account for significant gains in student learning" (Schisler et al., 2010, p. 135). As students work one-on-one with each other as they engage in peer tutoring activities, academic engagement for all students can be increased (Greenwood, 1991; Olmscheid, 1999). "One-on-one instructional procedures have been viewed as highly effective for students with diverse needs" (Brewer, Reid, & Rhine, 2003, p. 113). Peer tutoring can also yield significant gains in social and communication skills (Topping, 2005). Both tutees and tutors can gain academically and socially from this experience (Topping, 2005). Peer tutoring has been shown to be a useful strategy for both lower and higher academic levels of students (Dineen et al., 1977; Harris & Sherman, 1973; Olmscheid, 1999; Topping, 2005). Finally, students engaged in peer tutoring display more positive feelings

towards school in general (Webb, 1988). Research has shown peer tutoring to have “the potential to be very successful for students of all ages and ability levels” (Olmscheid, 1999, p. 9).

Chapter Three

Methodology

The objective of this study was to examine the effects peer tutoring has on student achievement, specifically; retelling accuracy, which is a common measure of reading comprehension. The research question was, “Does one-on-one peer tutoring have an effect on student academic achievement; specifically, retelling accuracy as a measure of reading comprehension?” Throughout the study, four students engaged in orally reading eight passages over the course of a four week period. One pair of students engaged in peer tutoring as they worked together to read and discuss the passages. The remaining two students did not engage in peer tutoring as they read the passages individually. Each of the four students then separately gave a retelling of the passage to the investigator. The students’ retellings were scored and the results were examined to determine the effectiveness of peer tutoring on their retelling accuracy.

Description of Participants

This study examined the reading comprehension abilities of four sixth grade female students as a result of peer tutoring. Two students engaged in a peer tutoring activity; two did not. All four students were reading on average for their current grade level. During the implementation of the study, I was completing lab hours in the students’ classroom, so they students did know me. However, I had not previously worked directly with the students.

Confidentiality of Data

Throughout this study, data was recorded using a numeral code to replace the students' names. A master list connecting the numerals and student names existed throughout the length of the study. During this time, the master code was used for investigation purposes to identify the students, and was stored in a locked box in the investigator's apartment, which also remained locked at all times. At the conclusion of the project, analysis of the results, and completion of the research paper, the identifying data was shredded immediately. Students were not audio or video recorded during the research project.

Demographics

As above stated, the four students involved in this study were all average-reading sixth grade females. The students attended a rural Appalachian elementary school serving students in grades Kindergarten through sixth. Each grade level in the school contained three classrooms. Each student participating in this study was a member of the same classroom.

Sampling

Students selected for the study were members of a sixth grade classroom in which the investigator was already working to complete required lab hours for a Master's degree. Students were recruited based on their average reading level with the assistance of the classroom teacher to identify the reading level of the students.

Instrumentation

Passages and retelling assessments from the Qualitative Reading Inventory (QRI) were used to complete the project. The QRI is an informal assessment instrument containing graded

word lists and numerous passages designed to assess a student's oral reading, silent reading, and comprehension abilities (Leslie & Caldwell, 2006). The project consisted of two pairs of average-reading students, all on the same reading level, reading passages from the QRI. One pair of students engaged in a peer tutoring activity as they read a passage together, actively discussing and talking about the passage as they read. The students then individually gave a retelling of the story to the investigator. The second pair of students read the same passage and individually gave a retelling of the story to the investigator. Each pair of students engaged in this procedure twice a week, resulting in a total of eight times, over the course of four weeks. The accuracy of the retellings was examined using the QRI retelling scoring procedure to determine whether there is a relationship between peer tutoring and higher retelling accuracy. The retelling data was scored using the QRI retelling scoring sheet, and retellings were assigned a numeral score. The scores over the four week period were graphed and examined to determine whether there is any relationship between the pair of students engaged in peer tutoring and individually-working students.

The results indicated the possible effectiveness peer tutoring has on academic achievement. Knowledge of the effectiveness of this teaching strategy will provide both pre-service and in-service teachers the opportunity to improve teaching practices in the classroom. Best teaching practices, as discussed by Miller and Kohler (1993) are based on research and exhibit positive student learning results.

Chapter Four

Throughout this study, the effect of peer tutoring on student achievement was examined. In order to investigate this relationship, four sixth grade female students engaged in reading

passages orally and giving a retelling of each passage to the investigator. Each student was on the same average reading level. During the study, one pair of students participated in a peer tutoring activity which consisted of reading a passage together, actively discussing and talking about the passage as they read. The other two students involved in the study each read the same passages on their own. At the conclusion of each student's reading, each of the four students individually gave a retelling of the passage to the investigator. The students completed this procedure a total of eight times over a four week period. The retelling accuracies were then examined in order to determine the effectiveness of the peer tutoring activity. Peer tutoring and student retellings of material read were regular classroom procedures in the students' classroom. The research question under consideration during this study was, "Does one-on-one peer tutoring have an effect on student academic achievement; specifically, retelling accuracy as a measure of reading comprehension?"

Analysis of the Data

The retelling data was scored and analyzed using the Qualitative Reading Inventory (QRI) retelling scoring sheets, and retellings were assigned a numeral score based on the number of ideas recalled from each passage. An example of a retelling scoring sheet is attached in Appendix A. The scores over the month period were examined and graphed to determine whether there was any difference between the pair of students involved in peer tutoring and the two individually-working students. Each student's score was also averaged in order to compare the mean scores of the students involved in peer tutoring and the students who were not. This project has helped to determine the benefit of peer tutoring as an effective teaching strategy. It has also provided support for teaching peer tutoring strategies in methods classes preparing future reading teachers.

Results

Over the course of the four weeks, the two students involved in the peer tutoring activity had higher retelling accuracies than the two students who worked individually.

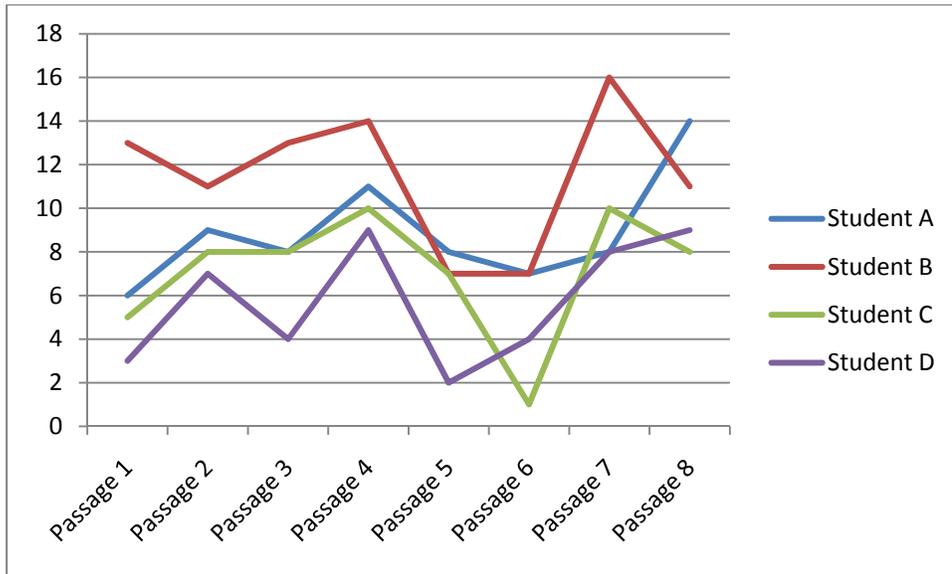


Figure 1. Students' Scores over Four Week Period.

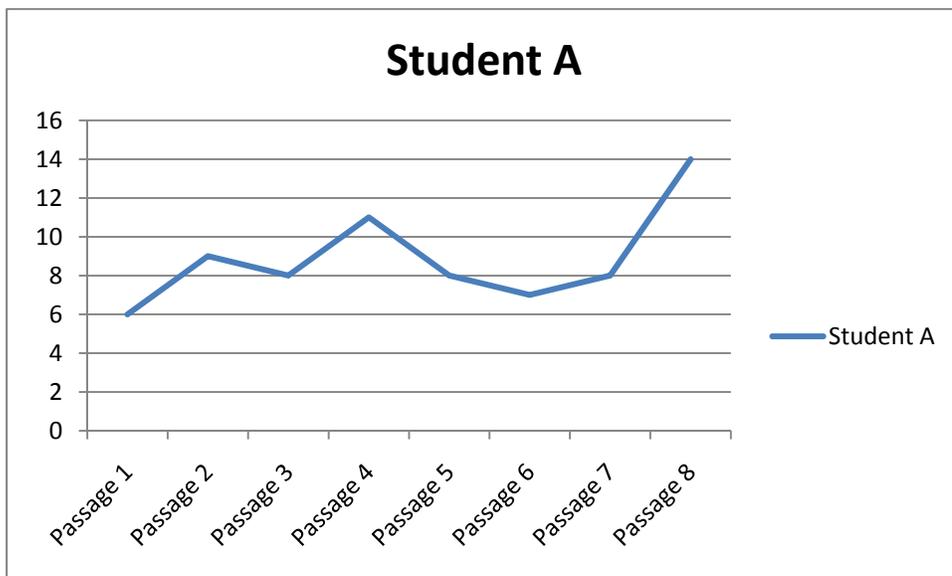


Figure 2. Student A's Scores over Four Week Period.

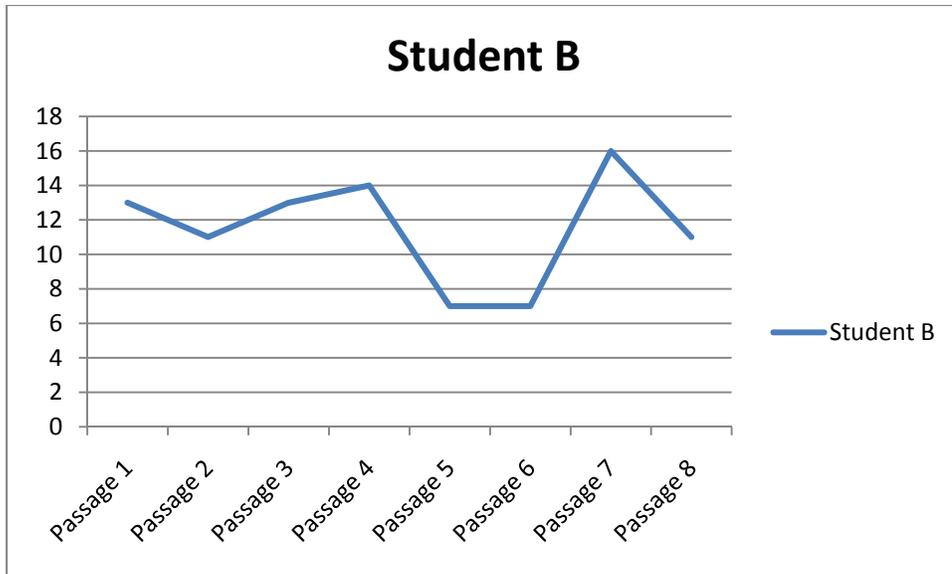


Figure 3. Student B's Scores over Four Week Period.

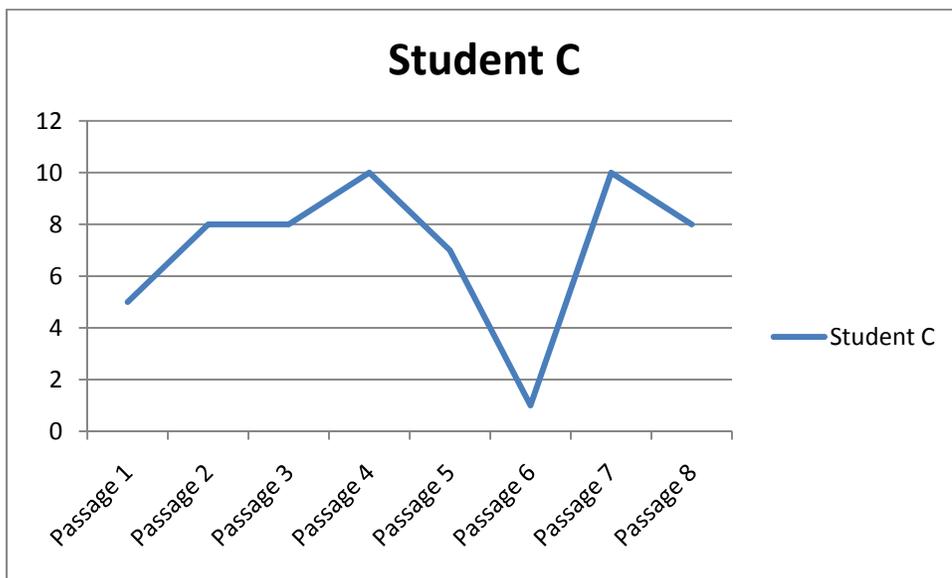


Figure 4. Student C's Scores over Four Week Period.

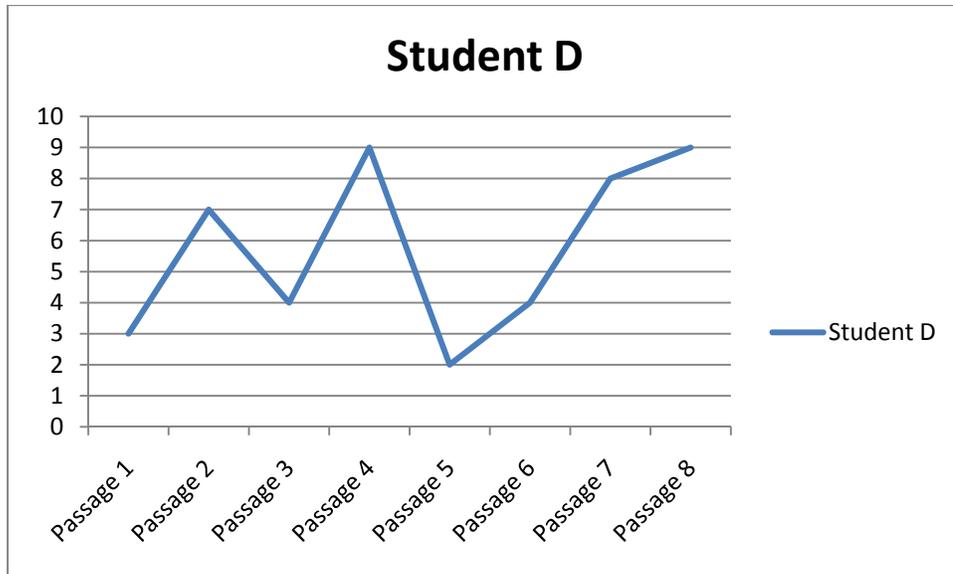


Figure 5. Student D's Scores over Four Week Period.

The students who were involved in peer tutoring were identified as Student A and Student B. The two students who worked individually were identified as Student C and Student D. The graphs of the students' scores over the four week period are above in Figure 1. Each student's individual scores over the four week period are shown below in Figure 2, Figure 3, Figure 4, and Figure 5.

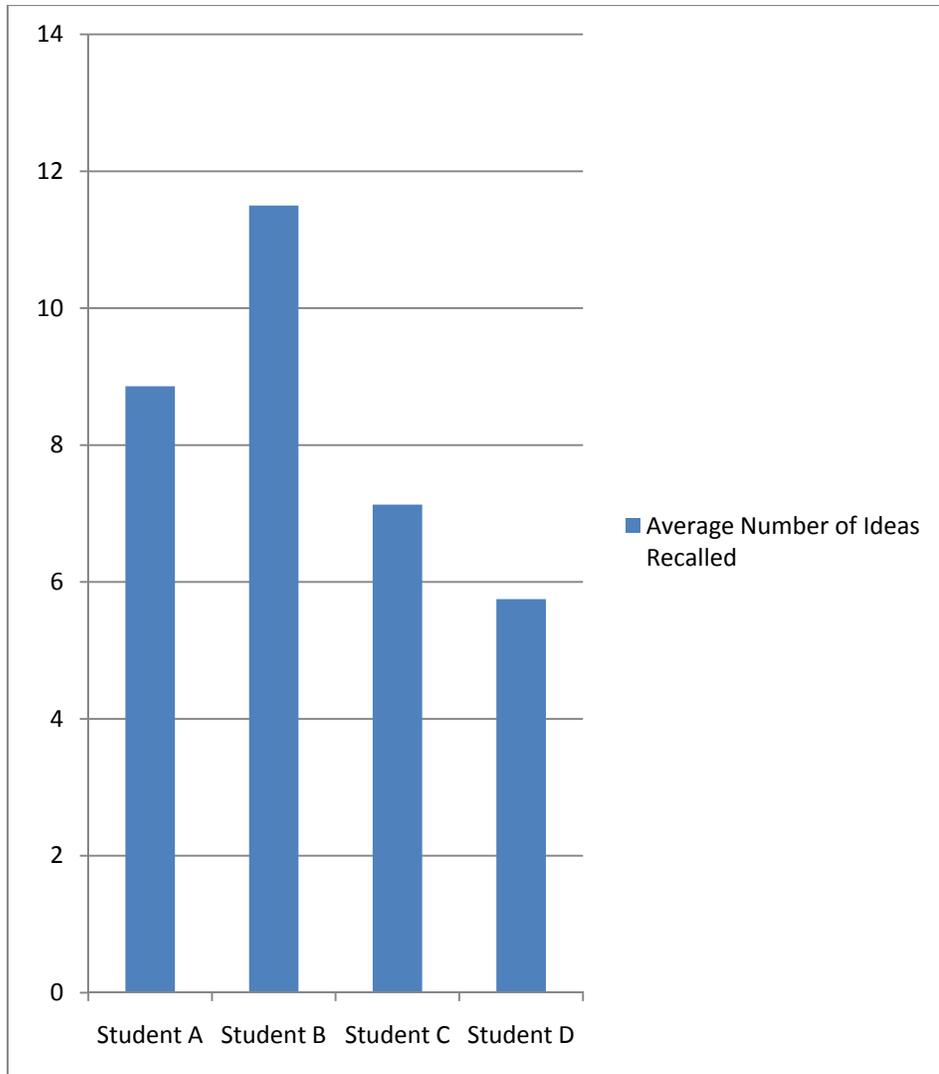


Figure 6. Average Number of Ideas Recalled.

The mean number of ideas Student A, who engaged in peer tutoring, recalled was 8.86. Student B, also involved in peer tutoring with Student A, recalled an average of 11.50 ideas from her reading. Student C, who worked individually and did not engage in peer tutoring, recalled an average of 7.13 ideas. Student D, who also worked individually, recalled an average of 5.75 ideas. A bar graph of these averages is shown above in Figure 6. These results demonstrate the benefit of peer tutoring for students.

At the beginning of the four week period, the students engaged in peer tutoring often questioned the investigator when coming across a word they were unfamiliar with or were unable to pronounce. As the weeks progressed, the students became much more dependent on each other to assist with unknown words and seldom questioned the investigator. This shows how peer tutoring can improve students' abilities in cooperating effectively with their peers, as discussed by Fitz-Gibbon (1988). The students were given the freedom throughout the study to decide themselves how they would take turns orally reading portions of the passage as they engaged in peer tutoring. During the last week of the study, the students involved in peer tutoring both seemed much more eager to take longer turns orally reading portions of the passage, compared to the beginning of the study when they students took much shorter turns reading, eager to pass along the responsibility of reading to their peer. This supports Topping's (2005) argument that peer tutoring has a significant impact on improving students' liking for a subject area in general. Through their results, the students in this study who were engaged in peer tutoring demonstrated higher retelling accuracy scores than the students who were not engaged in peer tutoring.

Conclusions and Recommendations

This purpose of this study was to examine the research question, "Does one-on-one peer tutoring have an effect on student academic achievement; specifically, retelling accuracy as a measure of reading comprehension?" The results showed students who participated in peer tutoring to have higher average retelling scores after reading passages than students who worked individually and did not engage in peer tutoring. These results indicate the positive impact peer tutoring has on student academic achievement. Students involved in peer tutoring also demonstrated improved cooperation skills with peers and an increased motivation to engage in

oral reading. Given these results, it is recommended that classroom teachers implement peer tutoring into their daily classroom instruction as much as possible. It is also recommended to teach peer tutoring instructional methods to pre-service reading teachers in order to foster highly effective instructional strategies. Kourea et al. (2007) also gives support for integrating peer tutoring into teachers' pre-service training in stating, "Guiding pre-service teachers in structuring peer tutoring, providing appropriate training, and monitoring and evaluating their progress will ultimately increase the likelihood of their continued use of such strategies throughout their teaching career" (p. 106).

This study did contain limitations due to the low number of students involved in the research and the short time span in which the research was conducted. In respects to future research regarding peer tutoring, it is recommended to examine the effectiveness of peer tutoring on a larger class-wide scale, involving an increased number of students. Additionally, it is recommended to observe peer tutoring's effectiveness over the duration of an entire school year in order to examine its long-term effects. Finally, due to the fact this study involved solely female participants, it is recommended to inspect peer tutoring's effectiveness for male students as well. Throughout this study, the students involved in peer tutoring had higher average retelling accuracy scores, supporting numerous research which has also shown peer tutoring to increase student academic achievement (Dineen, Clark, & Risley, 1977; Greenwood, 1997; Harris & Sherman, 1973; Kamps, Barbeta, Leonard, & Delquadri, 1994; Kourea, Cartledge, & Musti-Rao, 2007; Olmscheid, 1999; Pigott, Fantuzzo, & Clement, 1986; Simmons, Fuchs, Hodge, & Mathes, 1994; Topping, 2005).

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Appendix A

Retelling Scoring Sheet

Level: Five

Number of Total Miscues (Total Accuracy): _____	
Number of Meaning-Change Miscues (Total Acceptability): _____	
Total Accuracy	Total Acceptability
0-6 miscues _____ Independent _____	0-6 miscues _____
7-26 miscues _____ Instructional _____	7-13 miscues _____
27+ miscues _____ Frustration _____	14+ miscues _____
Rate: $254 \times 60 = 15,240 /$ _____ seconds = _____ WPM	
_____ WPM - _____ errors = _____ CWPM	

Retelling Scoring Sheet for
"The Octopus"

Main Idea

- Some people think
 the octopus is a giant creature
 and a mean creature.
 They have seen this
 in movies
 science fiction movies.
 The octopus is shy
 and small.

Details

- The octopus has eight arms.
 Octo means "eight."
 It uses its arms
 to walk
 and capture crabs.
 Crabs are its food
 its favorite food.
 The octopus bites
 into the crab.
 This sends poison
 into the crab's body.
 The octopus protects itself
 in three ways.
 First,

- when frightened,
 the octopus can push water
 from its body.
 This action pushes the octopus
 forward
 very rapidly.
 This allows it
 to escape.
 Second,
 the octopus has a sac
 that holds a liquid
 an ink-like liquid.
 When an enemy comes close,
 the octopus squirts fluid.
 It swims away.
 The predator sees a cloud
 a dark cloud.
 The octopus has escaped.
 Finally,
 the octopus changes color
 when it is excited
 or scared.
 Suppose the octopus sees a crab.
 Pink patches,
 purple patches,
 or blue patches
 appear.
 If the octopus sees an enemy,
 the octopus will change color
 completely.
 It seems to disappear
 into the background.

54 Ideas

Number of ideas recalled _____

Other ideas recalled, including inferences:

Questions for "The Octopus"

1. What is this passage mainly about?
Implicit: what the octopus is like; or how it behaves

