8-1991

The Effects of Peer Tutoring on a Direct Instruction Reading Program

Robert Schuyler Brooks
Western Michigan University

Follow this and additional works at: http://scholarworks.wmich.edu/masters_theses
Part of the Educational Psychology Commons, and the Language and Literacy Education Commons

Recommended Citation
http://scholarworks.wmich.edu/masters_theses/939

This Masters Thesis-Open Access is brought to you for free and open access by the Graduate College at ScholarWorks at WMU. It has been accepted for inclusion in Master's Theses by an authorized administrator of ScholarWorks at WMU. For more information, please contact maira.bundza@wmich.edu.
THE EFFECTS OF PEER TUTORING ON A DIRECT INSTRUCTION READING PROGRAM

by

Robert Schuyler Brooks

A Project Report
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Specialist in Education
Department of Psychology

Western Michigan University
Kalamazoo, Michigan
August 1991
THE EFFECTS OF PEER TUTORING ON A DIRECT INSTRUCTION READING PROGRAM

Robert Schuyler Brooks, Ed.S.
Western Michigan University, 1991

This study evaluated the effectiveness of peer tutoring with a direct instruction reading program prior to teacher-directed instruction. Six upper level elementary students participated in the peer tutoring program and two students participated in a control group.

The findings from this study indicate that: (a) pre-exposure to direct instruction in reading lessons with peer tutoring improves student reading rate without increasing error rate, and (b) the instructional time for a teacher-directed lesson decreases when peer tutoring is a part of the reading routine. It was concluded that peer tutoring prior to teacher-directed instruction increases student reading rates without sacrificing accuracy and that the classroom teacher was able to teach a reading lesson in significantly less time when the peer tutoring program was implemented in the reading program.
ACKNOWLEDGEMENTS

I wish to express a special acknowledgement and sincere appreciation to my advisor and committee chairperson, Dr. Howard Farris, for his encouragement and support throughout my course of study; and to my committee members, Dr. Michele Burnette, and Dr. William Redmon, for their advice, guidance, and assistance. I also want to express my appreciation to my intern supervisor, Michael Vreeland, for his assistance and direction throughout my research project. All of you made my research project easier with your knowledge and expertise.

Finally, I would like to thank my parents and wife for their love and encouragement throughout my graduate studies. All of you made graduate education possible.

Robert Schuyler Brooks
INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI
University Microfilms International
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313/761-4700 800/521-0600

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
The effects of peer tutoring on a direct instruction reading program

Brooks, Robert Schuyler, Ed.S.

Western Michigan University, 1991
# TABLE OF CONTENTS

ACKNOWLEDGEMENTS ................................................................................... ii  
LIST OF TABLES ............................................................................................... v  
LIST OF FIGURES ............................................................................................. vi  
INTRODUCTION ................................................................................................. 1  
  Purpose of the Study ....................................................................................... 1  
  Previous Research ........................................................................................... 2  
METHOD ............................................................................................................. 6  
  Subjects .......................................................................................................... 6  
  Setting ............................................................................................................. 6  
  Apparatus and Materials ............................................................................. 7  
  Dependent Variables .................................................................................... 8  
  Observer Training and Reliability ................................................................. 10  
  Student Training ............................................................................................ 11  
  Student Correction Training ........................................................................... 13  
  Experimental Design .................................................................................... 15  
RESULTS ........................................................................................................... 17  
  Social Validation ........................................................................................... 21  
  Discussion ...................................................................................................... 24  
APPENDICES ................................................................................................. 30  
  A. Tutoring Point Sheet ................................................................................ 30  
  B. Data Collection Checkout Forms .............................................................. 32  
  C. Tutor Performance Checksheet ................................................................. 34
Table of Contents--Continued

D. Parent Questionaire .................................................................36
E. Lesson Duration Form .............................................................38
F. Human Subject Institutional Review Board Approval Letter ..........40
G. Informed Consent Letter ..........................................................42
H. Informed Assent Letter ............................................................44

BIBLIOGRAPHY ...........................................................................46
LIST OF TABLES

1. Definition of Dependent Variables ................................................................. 9

2. Inter-Observer Reliability Checks ............................................................... 11

3. Means and Ranges of Student Reading and Error Rate
   During Baseline and Peer Tutoring .......................................................... 18
LIST OF FIGURES

1. Reading Rate for Students A, B, C, and D ..................................................... 9
2. Reading Rate for Students E, F, G, and H ................................................... 20
3. Error Rate for Students A, B, C, and D ...................................................... 22
4. Error Rate for Students E, F, G, and H ...................................................... 23
5. Teaching Duration for Groups 1, 2, and 3 ................................................... 25
INTRODUCTION

Purpose of the Study

In the state of Michigan, grade level achievement data from the 1980 census (United States Department of Commerce, 1987) indicate that 600,000 adults ages 20 years and older are considered illiterate. Webster's (1983) dictionary defines an illiterate as one who doesn't know how to read or write. Nationally, over 60 million adults read at a level which is less than equal to the full survival needs of our society (Kozal, 1986).

One obvious approach to the general problem of illiteracy is to improve the likelihood that all children in America learn how to read within the schooling years. Teachers face enormous challenges in teaching academic skills to students with varying levels of skill development and different learning needs. Sources have shown that the number of students who are at risk of academic or social failure have greatly increased over the past few years (Buffone & Potter, 1987). The numbers of at-risk students needing supplemental educational activities are expected to continue to increase (Will, 1989). Thus, interventions are needed within the school system to develop a more successful learning environment. Given the complexity of educational settings and their unique organizational structure with regard to teaching and learning, any solution proposed must have several critical characteristics. It must be fairly simple to use, directly relevant to skills being taught, and have data supporting its efficacy.

One intervention with these characteristics is peer tutoring, the act of one child assisting another in the learning of a specific task (Ehly, 1986). Research on peer tutoring has been conducted in a number of academic settings with a variety of subjects.
Previous Research

Greenwood, Delquadri, and Hall (1988) applied peer tutoring within an entire Chapter I (low socio-economic) first grade classroom. This classwide peer tutoring (CWPT) program was intended to follow students for four full years, from first through fourth grades. The project included both a control group of Chapter I school students who did not participate in the peer tutoring program and the experimental group from similar Chapter I schools who did. All students took pretests and posttests each year. Five students in each class were randomly selected to be observed twice a year.

The peer tutoring project began with a daily 30-minute spelling lesson. Once the tutors and teachers were proficient with the technique, mathematics and then reading programs were added to the program. Results of the project showed significant differences in achievement between the Chapter I students who received traditional teaching accompanied with peer tutoring and the Chapter I students who only received Chapter I services. The experimental classes made academic gains comparable to those of high socio-economic comparison groups.

Class-wide peer tutoring also has been implemented in high schools with mildly handicapped students (Maheady, Sacca, & Harper, 1988). In this research, 50 students identified as learning disabled, behavior disordered, or educable mentally retarded served as subjects. The students (27 males and 23 females) were enrolled in three 10th grade social studies classrooms in a large urban high school. The project began by having the social studies teacher instruct his class using his traditional classroom routine which included teacher-led lecture, media presentation, and homework discussion. The teacher also developed a weekly 30-item comprehensive questionnaire covering the week's content area. Each Friday, each student took a 20-item quiz covering the week's information.
Class-wide peer tutoring was introduced in each classroom simultaneously. The classrooms were randomly divided into two teams and each team remained the same for two weeks. Following the selection of the teams, the teacher randomly paired students within each team to form tutoring dyads. Throughout the next two weeks, these pairs worked together on designated days, using the 30-item study guides. During baseline, the mildly handicapped students scored from 55-70% on weekly quizzes in social studies, with an average score of 65.96%. The implementation of CWPT resulted in an immediate increase in weekly quiz scores. These gains ranged from 19-27 percentage points for the total class and averaged 21.66 percentage points for the entire period of the project. To demonstrate further experimental control, the researchers withdrew CWPT for one week in two of the three sections. Scores on the weekly quiz dropped by 22 and 20 percentage points, respectively. Class-wide peer tutoring was reinstated the following week.

Researchers of classwide peer tutoring programs purport that the opportunity for learners to respond is a critical variable in academic achievement (Delquadri, Greenwood, Whorton, Carta & Hall, 1986). Thus, instructional procedures which facilitate responding are likely to improve academic performance.

Peer tutoring with single dyads has also been shown to be an effective intervention for complementing traditional instruction. This type of program can be implemented when the teacher doesn’t have the instructional time for class-wide peer tutoring or when there are only a few students who need additional practice in a skills area.

Smith (1991) demonstrated the effectiveness of a peer tutoring program in arithmetic for primary-aged students with learning disabilities. The 20 subjects, aged 6-10, came from four schools in which they were receiving services in a primarily self-contained learning disabilities classroom. All subjects were functioning one or
more grade levels below same-aged peers in basic mathematics skills prior to the peer tutoring program.

During the first phase, subjects were pretested on randomly ordered addition fact sheets. The student average was 23 correct out of a possible 60 problems (38%). The second phase consisted of two peer tutoring programs. Method A consisted of a "counting-on" procedure that directly addressed the interrelationship among facts in the task set (e.g., "each time the addend increases by one, the sum increases by one; say it with me, 2 + 4 = 6, 2 + 5 = 7, 2 + 6 = 8; all by yourself"). Method B employed a rote-memorization procedure that did not address the interrelationship among facts in the task set (e.g., "2 + 6 = 8, your turn, 2 + 6 = how many?; all by yourself"). Method C, a no-treatment control condition, also was included. Immediately following the completion of a task set, tutors in both programs randomly presented flashcards with all previously learned facts. The peer tutoring program lasted for four weeks in 15-minute daily tutoring sessions. The third phase consisted of a posttest on the 60 randomly ordered addition facts.

The students in the peer tutoring programs improved their scores from 23 correct (38%) to 38 (63%) correct out of a possible 60 addition problems. There were no significant differences between Method A and Method B tutees. The control group improved (on the average) from 23 correct on the pretest (38%), to 26 correct on the posttest (43%). The results of this program strongly suggest that primary-aged learning disabled students can improve their single digit addition computations when peer tutoring is provided (Smith, 1991).

Data from the above studies have consistently demonstrated peer tutoring as an effective in-class intervention for improving academic performance. Moreover, these findings lead one to hypothesize that both the opportunity to respond and the actual engaged time spent on academic tasks is directly related to academic achievement.
The objective of the present study was to apply peer tutoring to a direct instruction reading curriculum and evaluate its effectiveness. **Corrective Reading:**

**Decoding Strategies:** Decoding B1 (Engelmann, Johnson, Carnine, Meyers, Becker, & Eisele, 1988) and B2 (Engelmann, Meyers, Carnine, Becker, Eisele, & Johnson, 1988) are direct instruction reading programs which are used for remedial readers in Kalamazoo Public Schools.

Peer dyads (two students working together) were trained as both the tutor and tutee. During the study, each student participated in both activities. The peer tutoring program was conducted prior to daily reading lessons.

The underlying assumption of the study was that if students spend time on each reading lesson prior to receiving teacher instruction, the students will be more familiar with the content of the lesson during the teacher presentation (i.e., make fewer reading errors and need less repetition to reach mastery of the material). In addition, it was expected that pre-exposure would reduce the time required to complete a reading lesson, thus providing an opportunity for the teacher to teach more material in the same amount of time thereby accelerating instruction for low performing students in the remedial reading program. The overall result would be a reduction in the reading discrepancy between remedial readers and their mainstreamed peers.
METHOD

Subjects

Eight subjects participated in the study. These students were in 4th-6th grades and ranged from 9-12 years of age. All students had been identified as learning disabled in reading decoding and/or reading comprehension and placed in a resource room for special education students. Time required in the resource room for each student varied from 6-15 hours per week. All students in the study had at least one year of experience with direct instruction reading programs. There were three different reading levels in this classroom. For this study, they were identified as Group 1, 2 and 3. Group 1 consisted of 2 sixth grade students, the most advanced readers in the classroom. The second group was made up of 2 fifth grade students, and Group 3 began with a mixture of 6 fourth, fifth and sixth grade students.

Two students were randomly selected from each of the three reading groups to participate in the study. Two other students from the lowest reading group were selected as an experimental control group.

Setting

The project took place in a 4th-6th grade special education classroom in an inner-city elementary school in western Michigan. The room resembled a traditional elementary classroom with desks aligned in a 4 x 4 pattern. In one corner was a large wooden desk, seldom used during teacher instruction, at which the students engaged in peer tutoring. The classroom was highly structured with many visual prompts, including a list of rules and an incentive board. The latter was used during the study to plot points earned during the peer tutoring sessions.
Apparatus and Materials

The tutoring material was taken from the direct instruction reading programs used in the school district. The *Corrective Reading: Series Guide* (Johnson, 1988) is broken down into three programs. Decoding A concentrates on beginning reading skills: sounds, blending sounds into words and pronunciation. Decoding B1 and B2 focus on sound combinations, word reading and accurate story reading. Decoding C emphasizes irregular sounds, word reading and rate building.

The students in the resource room were placed in this reading program at the beginning of the school year. When the peer tutoring program began, all six students were working in the Decoding B series. The highest reading group was on lesson #45 of the Decoding B2 program, Group 2 was on lesson #21 of the Decoding B1 program and Group 3 was at the beginning (lesson #7) of the Decoding B1 program. Thus, the majority of reading material used in this study was from the Decoding B program.

The Decoding B Program typically starts out with a list of 20-40 vocabulary words that will be used in that lesson's story. Part of the vocabulary focuses on a single decoding theme or rule. For example, one rule introduced early in Decoding B1 is: “If the last letter is e, you hear the letter name.” A column of words that exemplify this rule (hate, mate, date, slate) will be practiced for many lessons. There is also a vocabulary component that focuses on factual or background information. If the title of the passage is the “The clock maker,” a portion of the passage’s vocabulary will center around the plot of the passage (i.e., cuckoo clock, carve, file, ding dong, etc.). The final portion of the vocabulary is often review words from prior lessons. These various vocabulary components are presented in boxes. Thus, the decoding words are printed in a separate box than the factual words, and the factual words are printed in a separate box from the review vocabulary. Sentence or passage reading
follows the vocabulary component of a lesson. At the beginning of Decoding B1, the reading component is 10-15 single sentences. The Decoding B Program gradually progresses into story passages. At the end of Decoding B2, the passages consist of 500-600 words.

Each student was given a storybook and each student dyad also was given a laminated point chart (Greenwood, Delquadri, & Carta, 1988) and magic marker to keep track of points earned in the peer tutoring (Appendix A). When not in use, the point chart was attached to the incentive point board. A digital stopwatch was used to measure tutoring duration.

Dependent Variables

The two dependent variables in the project were (student’s) reading rate and accuracy which also were variables used in the Corrective Reading Series to demonstrate mastery of reading material by student readers (see Table 1). Upon completion of a lesson with teacher directed instruction, each student was required to read aloud to the teacher (independently and privately) to check student progress. Throughout this study, the researcher assumed this responsibility. The “checkout” consisted of a one-minute task in which the student had to read a certain number of words correctly. The passing criterion was three errors or less in the one-minute interval. The number of words to be read depended upon the location within the reading program. At the end of the first lesson in Decoding B1, the student should have been able to read 50 words in a minute with three errors or less. The number of words to be read increased by five after every fifth or tenth lesson. The criteria for errors made by a student remained constant at three per checkout. Reading checkouts were conducted after completion of a teacher-directed instructional lesson. A student and the researcher sat
Table 1
Definition of Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Related Unit of Measurement</th>
<th>Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Rate</td>
<td>Each student was required to read aloud a story passage which complements reading exercises in the Corrective Reading Series. Each student was required to read as many words as he/she could in a one-minute segment. The students were reminded to read as quickly and carefully as possible. This procedure occurred routinely after the completion of every teacher-directed reading lesson.</td>
<td>*55-125 words read</td>
</tr>
<tr>
<td>Error Rate</td>
<td>The reading checkouts were also evaluated for errors. An error was considered a word mis-read (i.e., “slate” was read instead of “slat”), added (e.g., “The con man was very big” was read instead of “The con man was big”), or omitted (e.g., “Chee ran fast” was read instead of “Chee ran really fast”) during the checkout. Each error made was counted as one error.</td>
<td>3 errors or less</td>
</tr>
</tbody>
</table>

*Number of words read was dependent upon the location of the student in the reading program.

at a desk (face to face) in a corner of the classroom. No other students were immediately present. The student and researcher each had a storybook opened to the appropriate passage. When the researcher said “go,” the student began reading the passage aloud. During the reading, the researcher circled errors emitted by the student. The student stopped reading when the one minute timer expired. The researcher made a slash next to the last word read and counted the number of words read and errors. Data were recorded on individual checkout sheets (Appendix B) and placed in individual folders.
Observer Training and Reliability

A graduate student experienced in direct instruction teaching was selected as the expert observer to assess interobserver agreement and accuracy of experimental observations. Several pre-experimental student checkouts were completed in order to corroborate interobserver agreement on student reading rate and accuracy.

During the pre-experimental checkouts, the student, researcher, and graduate student each had a copy of the appropriate passage. The checkout procedure remained the same with or without the presence of observer (i.e., when the timer expired, both the researcher and graduate student independently counted reading and error rate, completed a data collection form [Appendix B], and returned it to individual student folders).

Point by point observer agreement was used in measuring reading rate. The two observers had to agree exactly on total words read to obtain an agreement on reading rate. This was done by having both observers independently count words read by the student after the timer expired. If both agreed upon words read by the student, it was considered an agreement on the checkout for that student. See Table 2 for individual student data. During the study, the two observers agreed on reading rate 96.8% (62 of 64) of checkouts which both observed.

Point by point agreement was also used in measuring error rate during reading checkouts. The two observers circled (on their copy of the passage) all errors emitted during a checkout. When the timer expired, the two compared results. An agreement occurred every time both observers identified the same reading error (decoding, omission, or addition) during a checkout. Error rate agreement was calculated by dividing the smaller number of errors identified by either the researcher or the graduate student into the larger number of errors. For example, if the researcher identified three mistakes during a checkout and the graduate student identified those three plus an addi-
Table 2
Inter-Observer Reliability Checks

<table>
<thead>
<tr>
<th>Student</th>
<th>Total Checks</th>
<th>Reading Rate</th>
<th>Error Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>9/34 = 26%</td>
<td>9/9 = 100%</td>
<td>18/23 = 78%</td>
</tr>
<tr>
<td>Student B</td>
<td>9/34 = 26%</td>
<td>8/9 = 89%</td>
<td>22/22 = 100%</td>
</tr>
<tr>
<td>Student C</td>
<td>7/29 = 24%</td>
<td>7/7 = 100%</td>
<td>9/9 = 100%</td>
</tr>
<tr>
<td>Student D</td>
<td>7/29 = 24%</td>
<td>7/7 = 100%</td>
<td>6/7 = 86%</td>
</tr>
<tr>
<td>Student E</td>
<td>8/32 = 25%</td>
<td>7/8 = 88%</td>
<td>12/12 = 100%</td>
</tr>
<tr>
<td>Student F</td>
<td>7/32 = 22%</td>
<td>7/7 = 100%</td>
<td>12/12 = 100%</td>
</tr>
<tr>
<td>Student G</td>
<td>7/32 = 22%</td>
<td>7/7 = 100%</td>
<td>20/22 = 91%</td>
</tr>
<tr>
<td>Student H</td>
<td>10/25 = 40%</td>
<td>10/10 = 100%</td>
<td>27/32 = 84%</td>
</tr>
<tr>
<td>Total</td>
<td>64/247 = 25.9</td>
<td>62/64 = 96.8</td>
<td>126/139 = 90.6</td>
</tr>
</tbody>
</table>

Regardless of which data collector identified the most errors during a checkout, the lower number of errors identified was always divided by the higher number. The observer agreed on 90.6% (126 of 139) of student errors identified by the researcher.

For this study, the expert observer was present during 25.9% (64 of 247) of the reading checkouts.

Student Training

The researcher trained the six students in peer tutoring by demonstration and participatory exercises. The students were trained in the order in which they began the peer tutoring program. Thus, the two sixth graders who were in the most advanced reading group were trained first. This dyad was chosen to begin because, as sixth graders, it was felt that additional practice in reading was a higher priority for
them than for the younger elementary students since the sixth graders would be attending junior high school the following year with a more diverse environment and less individual teacher-directed attention. Second, the two sixth graders had used the Corrective Reading Series for the past two years and could acquire the peer tutoring skill at a faster rate, accelerating peer tutoring exposure for all students.

The first phase of training consisted of an orientation to the peer tutoring material (i.e., point sheet, the timer, the schedule of peer tutoring lessons) in a room separate from the classroom. The student storybooks, point sheet, marker and timer were the only materials used during training.

The next phase consisted of modeling the skills of a peer tutor. The researcher randomly selected one of the two students to be tutored during the demonstration. Lessons already completed by the reading group were selected as training material to make the training easier. The tutee was asked to read a vocabulary list above the relevant passage. The tutor would then prompt the tutee by saying: “For each box of words you read correctly the first time, you’ll receive two points, start with box 1.” If the tutee read every word correctly on the first attempt, the tutor said, “Correct, 2 points” and made a slash across the first two numbers on the point sheet. The tutor would then prompt the tutee to read box 2. If the tutee read box 2 correctly on the first try, the same process was used for awarding points. If the tutee made a mistake on one or more words in a box, a specific correction format was followed (see below: “Student Correction Training”). This procedure is followed until all boxes of vocabulary words have been read correctly.

Once the demonstration was complete, the researcher directed the initial tutee to be the tutor and the other student to be the tutee. The dyad was assisted in initial set up for the session by helpful tips (i.e., “Tutor: have the timer set up at eyes’ view but out of the way, place the point sheet next to the storybook for quick administration of
points”; “Tutee: wait until the tutor tells you to read before beginning and read carefully”). When the dyad was ready, the tutor set the timer for seven minutes and the tutee began reading the vocabulary words. When the dyad had gone through the vocabulary boxes 3-4 times (or until firm), the researcher stopped the tutoring. The two students then reversed roles and practiced opposing skills. The training program advanced when the students had demonstrated mastery of tutoring skills presented.

The next part of the training was the presentation of peer tutoring during passage reading. It was explained that when the dyad had completed the vocabulary portion of the lesson, they were to begin reading the story passage for that lesson. The researcher randomly chose a student and simulated a peer tutoring session. The researcher prompts the student to begin reading the story. The researcher followed along in a separate storybook. The tutee stopped reading when the timer expired. The sentences read were counted and multiplied by two; thus, each sentence read correctly on the first attempt earned the dyad two points. If there were errors emitted during the story reading, a specific correction procedure was followed (see below: “Student Correction Training”). The two students then exchanged roles and practiced opposing skills. When the timer expired, the new peer tutor calculated points earned and added that sum to earlier points earned in the tutoring session. Finally, the total points earned were calculated for the session and recorded on the point chart.

**Student Correction Training**

The students participating in this study were mildly handicapped in the area of reading and typically had more difficulty in reading compared to same-aged peers. Thus, during the student training, the researcher focused heavily on an appropriate method for correcting reading errors. The researcher carefully defined what constituted an error and provided examples. This was done by reading various sentences
and making omission, addition, and decoding errors. The correction procedure was broken down into three components.

1. The model component is the first corrective step. When an error occurred, the tutor immediately interrupted the tutee by saying “stop” and read the material in its correct form. For example, if a student read the following sentence: “The con man meets President Washington” and substituted the word “met” for “meets,” the tutor would immediately interrupt the passage reading by saying “stop, the word is meets.” If the tutee needed assistance in locating the error, the tutor pointed to the specific word(s).

2. The test component occurred next and was used to confirm that the tutee had learned the corrected version of the material. After the tutor had stopped the tutee and modeled the correction (i.e., “stop, the word is meets”), the tutee then was asked to repeat the word correctly. This was done by having the tutor prompt the tutee (“What word?”).

3. The retest was the final component of a correction. The objective was to assure that the tutee had retained the corrected material. The tutee was instructed to return to the beginning of the sentence (passage reading) or box of words (vocabulary) and reread it. This was done to provide the tutee with additional reading opportunities and to determine if he/she could retain the specified correction. If the tutee were able to read the word correctly the second time, the tutor awarded the tutee with one point. If the tutee made the same mistake again, he/she would have to return again to the beginning of the vocabulary box or sentence and read all words correctly before moving on.

The peer dyad first practiced these corrections on passages that had been completed earlier. First, the practice sessions were in the presence of the researcher in which feedback was provided. Then the practice sessions were practiced indepen-
dently of the researcher. The dyad had to demonstrate mastery of the peer tutoring skills prior to applying peer tutoring on future reading lessons. A checksheet was developed (Appendix C) to evaluate the effectiveness of implementation on the crucial variables of peer tutoring. The variables are listed and described below:

1. **The awarding of points**: two points for correct vocabulary/sentence reading, one point for a correct response after a tutor correction, and the accurate calculation of total points earned during the session.

2. **The correction procedure**: the immediate identification of tutee reading errors (omission, addition, and decoding errors), modeling correct response, testing tutee on corrected error, and retesting to assure mastery.

Each peer dyad had to demonstrate 80% accuracy on these variables for two sessions in a row prior to beginning independent peer tutoring. After meeting criteria, the dyads also were intermittently monitored. The maintenance of tutoring skills was evaluated by using the same checksheet listed above.

Initial student training took approximately 30 minutes (2 x 15 minute sessions). Meeting criteria on the checksheets took between 2-4 peer tutoring demonstrations for each dyad. Each demonstration was a regular 7' x 7' tutoring session. Thus, in less than 2 hours, students had learned the skills necessary to serve as a tutor or tutee in their remedial reading lessons.

**Experimental Design**

Baseline and intervention conditions were introduced using a multiple baseline across subjects design (Baer, Wolf, & Risley, 1968). With this design, ongoing data are collected on each subject, but the intervention is introduced for different subjects (student dyads) at different times in the experiment. Once the intervention has been introduced to a subject, it is not withdrawn. Before intervention was begun with any
subject, baseline data were collected on the two dependent variables described above. “If each change occurs when the intervention is introduced, the effects can be attributed to the intervention rather than to extraneous events” (Kazdin, 1982, p. 126).

During baseline condition, reading checkouts were performed with all six students after the completion of teacher-directed instruction. After ten checkouts, Group 1 demonstrated stability on reading rate and accuracy and began the peer tutoring program. All peer tutoring sessions focused on pre-exposure on the following lessons’ reading material prior to the teacher’s instruction. After beginning the peer tutoring program, the students continued until the study was complete.

A second dyad began peer tutoring after 16 checkouts (when the first dyads’ reading rate and accuracy were stable with peer tutoring). The third dyad began the peer tutoring program after 26 baseline checkouts.
RESULTS

Table 3 presents rate data for the two dependent variables for the eight students (reading rates are rounded to the nearest whole number and errors rates are rounded to the nearest tenth place value). Students A and B refer to the students in Group 1; students C and D refer to students in Group 2; students E and F refer to students in Group 3; and students G and H refer to students in the experimental control group.

Five of the six students who participated in the peer tutoring program significantly increased their reading rate on passage checkouts. Student D improved his reading rate by 26% on reading checkouts. Students A, C, E, and F improved their reading rates by 20%, 14%, 17% and 17% respectively. During peer tutoring, student B increased his reading rate by only five words (on the average) per minute on passage checkouts. This is a reading rate improvement of 4%.

The percent increase in reading rate was calculated by adding the words read on each checkout during baseline and dividing the sum by the number of checkouts. This number (rounded to the nearest hundreth) was the average number of words read per checkout during baseline. The same procedure was also conducted for all checkouts during intervention. The average reading rate during intervention was subtracted from the average reading rate during baseline. The difference was then divided by the baseline average and multiplied by one hundred to obtain the percent improvement in reading rate. Students G and H continued regularly in the Corrective Reading Series program throughout the peer tutoring sessions. Both performed reading checkouts for the researcher after each completed (teacher-directed) reading lesson. The only
Table 3
Means and Ranges of Student Reading and Error Rate During Baseline and Peer Tutoring

<table>
<thead>
<tr>
<th>Student</th>
<th>Reading Rate</th>
<th></th>
<th></th>
<th>Error Rate</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Intervention</td>
<td>Baseline</td>
<td>Intervention</td>
<td>Baseline</td>
<td>Intervention</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>Range</td>
<td>Mean</td>
<td>Range</td>
<td>Mean</td>
<td>Range</td>
</tr>
<tr>
<td>Student A</td>
<td>131</td>
<td>121-139</td>
<td>157</td>
<td>138-178</td>
<td>3.6</td>
<td>1-6</td>
</tr>
<tr>
<td>Student B</td>
<td>122</td>
<td>100-139</td>
<td>127</td>
<td>115-149</td>
<td>3.4</td>
<td>1-7</td>
</tr>
<tr>
<td>Student C</td>
<td>100</td>
<td>82-118</td>
<td>114</td>
<td>101-125</td>
<td>1.3</td>
<td>0-4</td>
</tr>
<tr>
<td>Student D</td>
<td>104</td>
<td>85-120</td>
<td>131</td>
<td>109-152</td>
<td>1.2</td>
<td>0-3</td>
</tr>
<tr>
<td>Student E</td>
<td>77</td>
<td>55-91</td>
<td>90</td>
<td>79-99</td>
<td>2.4</td>
<td>0-6</td>
</tr>
<tr>
<td>Student F</td>
<td>93</td>
<td>61-114</td>
<td>108</td>
<td>97-120</td>
<td>1.9</td>
<td>0-4</td>
</tr>
<tr>
<td>*Student G</td>
<td>86</td>
<td>75-110</td>
<td>87</td>
<td>65-137</td>
<td>3.9</td>
<td>1-8</td>
</tr>
<tr>
<td>*Student H</td>
<td>98</td>
<td>90-116</td>
<td>101</td>
<td>91-118</td>
<td>3.6</td>
<td>1-8</td>
</tr>
</tbody>
</table>

*Did not receive peer tutoring prior to teacher-directed instruction.

difference between Students G and H and Students A-F was that these two students did not receive pre-exposure to the reading lessons with peer tutoring.

Students G and H improved an average of 1% and 3%, respectively, in reading rate on passage checkouts during the peer tutoring program. This percent improvement was calculated by obtaining an average reading rate on the first 50% of reading checkouts. This average rate was then compared with the average reading rate on the second half of the checkouts (using the same procedure described above).

Figures 1 and 2 illustrate the changes in reading rate across baseline and peer tutoring phases for Students A-H.
Figure 1. Reading Rate for Students A, B, C, and D.
Figure 2. Reading Rate for Students E, F, G, and H.
Error rate for each student was calculated with a similar procedure. Four of the six students who participated in peer tutoring also reduced their error rate on reading checkouts. Student A improved his accuracy by 41%, from an average of 3.6 errors per checkout during baseline to 2.1 errors with peer tutoring. Other student improvements include Student B (38%), and Student E (17%). Student C's error rate was steady at 1.3 errors per checkout. Students D and F's error rates increased by 16% (.2 more errors per checkout) and 17% (.3 more errors/checkout) with peer tutoring. Students G and H improved on accuracy by 3% and 16% during reading checkouts. These percentages were calculated with the same procedure described above for the control group with reading rate.

Figures 3 and 4 show the changes in error rate across baseline and peer tutoring phases for students A-H.

Social Validation

The classroom teacher (Munn, 1991) was interviewed after the completion of the study. She was asked how she felt about the peer tutoring program, its strengths, and its weaknesses. She stated that “the students involved with the peer tutoring program made fewer errors during reading lessons. I was able to teach more in depth (i.e., asking inferential questions about the stories) to these students and they took great pride in demonstrating their reading skills.” She believed that peer tutoring programs could work in classrooms where the tutors are high functioning and the classroom is highly structured. She expressed concern about using peer tutoring in the Decoding C Program of the Corrective Reading Series. This program has less review of familiar vocabulary and is quicker paced with the introduction of new sound combinations and vocabulary. “Peer tutoring could be used in this program, but more probing of tutor performance would have to be done” (Munn, 1991).
Figure 3. Error Rate for Students A, B, C, and D.
Figure 4. Error Rate for Students E, F, G, and H.
The parents of the six students who participated in the study were given a brief questionnaire (Appendix D) to fill out and return to the researcher. Three questionnaires were returned and the findings are reported below:

1. All three parents reported that they had noticed their child speaking positively about the peer tutoring program.
2. Two of the three parents noticed their child generally read more, while the other parent reported seeing this only occasionally.
3. Two of the three parents noticed that their child discussed more things about reading, while the other parent reported seeing this only occasionally.
4. One of the three parents saw his/her child read more at home, while the other two reported seeing this only occasionally.

Discussion

The results of the present study indicate that pre-exposure to reading lessons with peer tutoring prior to teacher directed instruction can increase student reading rate without significantly increasing error rate. Five of the six students involved in the study increased their average reading rate on reading checkouts from 13-27 words per minute. The one student who did not improve significantly on reading rate reduced his error rate from an average of 3.4 errors/minute during baseline to 2.1 errors/minute during peer tutoring, a 38% improvement in accuracy.

The amount of time needed to complete a teacher-directed lesson decreased. Duration of instructional time by the classroom teacher also was measured, and Figure 5 illustrates the changes in teaching duration across baseline and peer tutoring phases for the reading groups. The teacher recorded the instructional duration of all reading lessons for each of the three reading groups (Appendix E). According to the classroom teacher's recordings, it took reading Group 1 an average 25 minutes to complete
Reading Checkouts

Figure 5. Teaching Duration for Groups 1, 2, and 3.
a reading lesson in the baseline phase. It took the same reading group 17 minutes on
average to finish a reading lesson when peer tutoring was implemented. This is
approximately a 32% decrease in teaching duration. That means that the teacher was
able to teach a reading lesson in 68% of the original time when peer tutoring was part
of the program. This allowed the teacher approximately 8 more minutes of teaching
time per reading session.

Reading Group 2 took an average of 29 minutes to complete an entire reading
lesson prior to the start of peer tutoring. When peer tutoring was implemented into
the program routine, the duration of teaching time decreased to an average of 21 min­
utes per lesson. This is a 28% reduction in teaching time. If the peer tutoring pro­
gram were to be used, the classroom teacher would have approximately 8 more min­
utes of instructional time per reading session.

Reading Group 3 took approximately 35 minutes to complete a reading lesson
during baseline conditions. The addition of peer tutoring did not significantly de­
crease duration of teaching time with this reading group. Reading Group 3 consisted
of eight students. At the onset of the peer tutoring program, there were six students in
this reading group. Two more students were identified as learning disabled in reading
and placed in this reading group during the study. Students E and F were the only
students in this group that were trained as peer tutors and were only in the peer tutor­
ing program about two weeks before daily scheduling problems arose. Students E
and F started the peer tutoring program at the end of the school year and various extra­
curricular activities (field trips, assemblies, parties) began to disrupt the academic
routine. Thus, failure to reduce duration of teaching time was mainly attributed to the
ratio of students participating in the peer tutoring program (2) to total students in the
reading group (8).
The classroom teacher was absent for four weeks due to knee surgery during the study. A substitute teacher continued the teacher-directed instruction during this time. Reading checkouts continued at the completion of each reading lesson but duration of instructional time was not measured while the substitute teacher was present. Thus, there is a difference between the number of reading checkouts and the number of lessons measured for teaching time. This affected reading Group One during intervention. Of the 24 reading lessons completed with peer tutoring, 16 were measured for teaching length. For reading Group 2, it occurred during the last week and a half of baseline (14 of 16 were measured) and the first two and a half weeks of (7 of 13 lessons were measured) intervention. For reading Group 3, the absenteeism affected the last three weeks of baseline (19 of 26 were measured) and the first week (3 of 6 lessons were measured) of intervention.

If reading Groups 1 and 2 were to use the peer tutoring program for the whole school year and work on reading for the entire interval of time given for reading, they would have about 18 more hours of teacher directed instruction per year. This does not include the practice with peer tutoring. The 18 additional hours were computed by taking the total number of school days (180) and subtracting 15% of those days for illness and extra-curricular activities (153). This number was then multiplied by the number of minutes saved (7) because of the pre-exposure to teacher-directed instruction with peer tutoring (1071). Extra minutes were then converted into hours by dividing the number by 60 (17.85).

Moreover, during this study, it took approximately 20 minutes to complete one reading lesson when peer tutoring was part of the program. This means that these two reading groups could complete at least 50 more reading lessons per year. In the Corrective Reading Series, that is almost a complete reading program.
The information provided by the teacher enhanced the findings obtained during this study. It has been shown that pre-exposure to teacher-directed instruction through peer tutoring can increase reading rate without significantly increasing error rate. This resulted in acceleration of teacher directed instruction through the reading lessons which provided the classroom teacher the opportunity to teach more reading material in the same amount of time without sacrificing the quality of results.

Approximately thirty minutes were required to initially train a pair of students in the peer tutoring program. It took another thirty minutes (on average) for the students to demonstrate the skills essential for a successful tutoring program. Thus, about one hour was required to completely train a peer tutor dyad. When the researcher monitored an ongoing tutorial session, the students performed accurately awarding points for correct vocabulary or story reading and performing the correction procedure (model, test, and retest). The student tutors had more difficulty identifying errors emitted by the tutee. The tutors identified approximately 45% of the total number of errors emitted by the tutees in a given tutorial session. “However, given the substantial gain in reading rate the students made, error identification on this task appears not to be all important” (Greenwood, Whorton, & Delquadri, 1984, p. 7).

The classroom teacher had minimal responsibilities in the study. If other teachers were to develop a peer tutoring program within their classroom, they would only need to probe a tutorial session occasionally after the initial training. The teacher would be able to evaluate the program’s success by weekly quiz scores or informal evaluations (e.g., checkouts). It is also important that the teacher develop an incentive system appropriate for each dyad. This could be done by simply asking students what they want to work for during peer tutoring sessions.
The students are capable of using this peer program with little direct teacher supervision. If the program is developed systematically, the program benefits each student participating.

Further research should be conducted to answer the following questions:

1. Can improvements in reading rate on the remedial material improve students’ reading rate on grade level content areas? That is, can the students generalize their improvements in reading to their regular education classroom requirements in social studies and/or science?

2. Do the improvements in reading rate affect the comprehension requirements within the reading program? The students are required to answer questions after completing a reading lesson. Would improvements in student reading rates help or hinder the comprehension components of the program?

3. Concerning a dyad, which of the two students should be the tutor first and which one should be the tutee first? Each dyad has similar skills, but usually one is a little bit stronger in decoding. Would it be more effective if the stronger decoder read first or tutored first? During the present study, the dyad worked in random order.

4. Another study could measure the rate of reading lessons completed when the teacher teaches for the entire period. One could compare the number of lessons completed in a year for a reading group who uses peer tutoring prior to teacher directed instruction and one who does not.
Appendix A

Tutoring Point Sheet
## Tutoring Point Sheet

<p>| | | | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>38</td>
<td>39</td>
<td>40</td>
<td>41</td>
<td>42</td>
<td>43</td>
<td>44</td>
<td>45</td>
<td>46</td>
<td>47</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>50</td>
<td>51</td>
<td>52</td>
<td>53</td>
<td>54</td>
<td>55</td>
<td>56</td>
<td>57</td>
<td>58</td>
<td>59</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>62</td>
<td>63</td>
<td>64</td>
<td>65</td>
<td>66</td>
<td>67</td>
<td>68</td>
<td>69</td>
<td>70</td>
<td>71</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>74</td>
<td>75</td>
<td>76</td>
<td>77</td>
<td>78</td>
<td>79</td>
<td>80</td>
<td>81</td>
<td>82</td>
<td>83</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>86</td>
<td>87</td>
<td>88</td>
<td>89</td>
<td>90</td>
<td>91</td>
<td>92</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>98</td>
<td>99</td>
<td>100</td>
<td>101</td>
<td>102</td>
<td>103</td>
<td>104</td>
<td>105</td>
<td>106</td>
<td>107</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>110</td>
<td>111</td>
<td>112</td>
<td>113</td>
<td>114</td>
<td>115</td>
<td>116</td>
<td>117</td>
<td>118</td>
<td>119</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>122</td>
<td>123</td>
<td>124</td>
<td>125</td>
<td>126</td>
<td>127</td>
<td>128</td>
<td>129</td>
<td>130</td>
<td>131</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>133</td>
<td>134</td>
<td>135</td>
<td>136</td>
<td>137</td>
<td>138</td>
<td>139</td>
<td>140</td>
<td>141</td>
<td>142</td>
<td>143</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>145</td>
<td>146</td>
<td>147</td>
<td>148</td>
<td>149</td>
<td>150</td>
<td>151</td>
<td>152</td>
<td>153</td>
<td>154</td>
<td>155</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>157</td>
<td>158</td>
<td>159</td>
<td>160</td>
<td>161</td>
<td>162</td>
<td>163</td>
<td>164</td>
<td>165</td>
<td>166</td>
<td>167</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>170</td>
<td>171</td>
<td>172</td>
<td>173</td>
<td>174</td>
<td>175</td>
<td>176</td>
<td>177</td>
<td>178</td>
<td>179</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>181</td>
<td>182</td>
<td>183</td>
<td>184</td>
<td>185</td>
<td>186</td>
<td>187</td>
<td>188</td>
<td>189</td>
<td>190</td>
<td>191</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td>193</td>
<td>194</td>
<td>195</td>
<td>196</td>
<td>197</td>
<td>198</td>
<td>199</td>
<td>200</td>
<td>201</td>
<td>202</td>
<td>203</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>205</td>
<td>206</td>
<td>207</td>
<td>208</td>
<td>209</td>
<td>210</td>
<td>211</td>
<td>212</td>
<td>213</td>
<td>214</td>
<td>215</td>
<td>216</td>
<td></td>
</tr>
<tr>
<td>217</td>
<td>218</td>
<td>219</td>
<td>220</td>
<td>221</td>
<td>222</td>
<td>223</td>
<td>224</td>
<td>225</td>
<td>226</td>
<td>227</td>
<td>228</td>
<td></td>
</tr>
<tr>
<td>229</td>
<td>230</td>
<td>231</td>
<td>232</td>
<td>233</td>
<td>234</td>
<td>235</td>
<td>236</td>
<td>237</td>
<td>238</td>
<td>239</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>241</td>
<td>242</td>
<td>243</td>
<td>244</td>
<td>245</td>
<td>246</td>
<td>247</td>
<td>248</td>
<td>249</td>
<td>250</td>
<td>251</td>
<td>252</td>
<td></td>
</tr>
<tr>
<td>253</td>
<td>254</td>
<td>255</td>
<td>256</td>
<td>257</td>
<td>258</td>
<td>259</td>
<td>260</td>
<td>261</td>
<td>262</td>
<td>263</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>265</td>
<td>266</td>
<td>267</td>
<td>268</td>
<td>269</td>
<td>270</td>
<td>271</td>
<td>272</td>
<td>273</td>
<td>274</td>
<td>275</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td>277</td>
<td>278</td>
<td>279</td>
<td>280</td>
<td>281</td>
<td>282</td>
<td>283</td>
<td>284</td>
<td>285</td>
<td>286</td>
<td>287</td>
<td>288</td>
<td></td>
</tr>
<tr>
<td>289</td>
<td>290</td>
<td>291</td>
<td>292</td>
<td>293</td>
<td>294</td>
<td>295</td>
<td>296</td>
<td>297</td>
<td>298</td>
<td>299</td>
<td>300</td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Appendix B

Data Collection Checkout Form
## Data Collection Form

### 1' Passage Reading

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson</th>
<th>Rate</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson</th>
<th>Rate</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson</th>
<th>Rate</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson</th>
<th>Rate</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson</th>
<th>Rate</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson</th>
<th>Rate</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson</th>
<th>Rate</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Lesson</th>
<th>Rate</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Appendix C

Tutor Performance Checksheet
A checklist to assess student performance on implementation of peer tutoring.

1. Point Administration
   A. Providing two points for correct word/sentence reading.
   B. Providing one point for self or tutor correction.
   C. Adding total points accurately.

2. Correction Procedure
   A. Immediate identification of student error:
      1. Omissions
      2. Additions
      3. Decoding Errors
   B. Model correct response.
   C. Testing student on corrected error
   D. Retest the student on error

Notes: A vertical dash was marked for each student measurement specified above during a tutoring session. Each time a specific skill should have happened, a dash (-) was marked on the appropriate line. If the student performed the skill correctly, the line was circled. If the student failed to do the skill, the dash was untouched. If the student performed the skill, but it was done incorrectly, the dash was crossed out.
Appendix D
Parent Questionnaire
Dear Parent:

This semester your child has participated in a peer tutoring program to provide extra practice in reading. I would like your input on the following questions. If you would mark an "x" in the area that you think is appropriate and have your child return this questionnaire to school, I would be most appreciative.

1. I have noticed my child likes to read more.
   ___ no, not at all ___ only occasionally ___ yes, I've seen this happen

2. I have noticed my child talk positively about the peer tutoring program.
   ___ no, no at all ___ only occasionally ___ yes, I've seen this happen

3. I have noticed my child discuss more things about reading.
   ___ no, not at all ___ only occasionally ___ yes, I've seen this happen

4. I have noticed my child read more at home.
   ___ no, not at all ___ only occasionally ___ yes, I've seen this happen
Appendix E

Lesson Duration Form
Data Collection Form
Lesson Duration

<table>
<thead>
<tr>
<th>Date</th>
<th>Date</th>
<th>Date</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson</td>
<td>Lesson</td>
<td>Lesson</td>
<td>Lesson</td>
</tr>
<tr>
<td>Start</td>
<td>Start</td>
<td>Start</td>
<td>Start</td>
</tr>
<tr>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Duration</td>
<td>Duration</td>
<td>Duration</td>
<td>Duration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Date</th>
<th>Date</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson</td>
<td>Lesson</td>
<td>Lesson</td>
<td>Lesson</td>
</tr>
<tr>
<td>Start</td>
<td>Start</td>
<td>Start</td>
<td>Start</td>
</tr>
<tr>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Duration</td>
<td>Duration</td>
<td>Duration</td>
<td>Duration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Date</th>
<th>Date</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson</td>
<td>Lesson</td>
<td>Lesson</td>
<td>Lesson</td>
</tr>
<tr>
<td>Start</td>
<td>Start</td>
<td>Start</td>
<td>Start</td>
</tr>
<tr>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Duration</td>
<td>Duration</td>
<td>Duration</td>
<td>Duration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Date</th>
<th>Date</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson</td>
<td>Lesson</td>
<td>Lesson</td>
<td>Lesson</td>
</tr>
<tr>
<td>Start</td>
<td>Start</td>
<td>Start</td>
<td>Start</td>
</tr>
<tr>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>Duration</td>
<td>Duration</td>
<td>Duration</td>
<td>Duration</td>
</tr>
</tbody>
</table>
Appendix F

Human Subjects Institutional Review Board Approval Letter
Date: November 1, 1990

To: Robert Brooks

From: Mary Anne Bunde, Chair

Re: HSIRB Project Number 90-10-06

This letter will serve as confirmation that your research protocol, "The Effects of Classwide Peer Tutoring in a Direct Instruction Reading Program," as revised, has been approved after expedited review by the HSIRB. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any change in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

cc: Howard Ferris, Psychology

Approval Termination: November 1, 1991
Appendix G
Informed Consent Letter
Dear Parents:

My name is Robert Brooks and a graduate student in the School Psychology Program at Western Michigan University. I've been the Program Director/Instructor of Project Help (reading clinic) for the past two years. I would like to provide more students the opportunity for supplemental tutoring in reading. The program that has been chosen to obtain this goal is called Classwide Peer Tutoring (CWPT). In the past, this program has been very successful with various populations of students in various academic subjects. The program's objective is to improve students' overall reading ability by structuring peer tutoring sessions.

The students involved will be trained/monitored as reading tutors for classmates. They will practice how to present columns of vocabulary and story passages to peers. Before partnerships are formed, students will participate in several informational session with Mr. Brooks. These sessions will train the students in the proper methods of good tutoring. Each session will take approximately 15 minutes. I would like to use peer tutoring during the Winter Semester, 1991.

Peer tutoring is being offered in the Edison Resource Room as a supplemental service to enhance students' reading skills. Your child is a good candidate for this experimental program. Participation in this program is voluntary. The parent and/or student may decide at anytime to discontinue participation.

We would like to share the program's results with other professionals involved in special reading services. Names of the students will always be withheld to protect privacy. Questions or concerns regarding the research may be directed to Robert Brooks (phone: 383-3326).

Your signature below indicates that you understand the above information and have decided to participate. You will receive a copy of this form.

____________________________  ______________________________
parent's signature               date

____________________________  ______________________________
witness's signature             date
Appendix H

Informed Assent Form
Dear Student:

Edison School, under the direction of Bob Brooks is developing a peer tutorial program to help students improve reading skills. As a participant in the tutoring program, a student will help his/her partner improve their reading skills. In turn, the student will also receive help in reading.

Before partnerships are formed, students will participate in several informational sessions with Mr. Brooks. These sessions will train the students in the proper methods of good tutoring.

If you would like to participate in the peer tutoring program, please sign your name below.

_________________________  _______________________
student's name               date

_________________________
witness's name               date
BIBLIOGRAPHY


