

1-1-1991

The Effectiveness Of One On One Tutoring And Reading Group Intervention In First And Second Grade Within Chapter One Reading Program

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THE EFFECTIVENESS OF ONE ON ONE
TUTORING AND READING GROUP
INTERVENTION IN FIRST AND SECOND
GRADE WITHIN CHAPTER ONE READING PROGRAMS

HOWREY

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The Effectiveness of One on One Tutoring
and Reading Group Intervention in First
and Second Grade Within Chapter One Reading Programs
(TITLE)

BY

Kim L. Howrey

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

Master of Science in Education

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1991

YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING
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2

The Effectiveness of One on One Tutoring and
Reading Group Intervention in First and Second
Grade Within Chapter One Reading Programs

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Abstract

This study evaluated the effectiveness of reading interventions for primary aged learners identified as Chapter One participants for instruction. Seventeen first graders received a tutoring and reading group intervention experimental treatment, while 14 second graders received a tutoring experimental treatment. Six first graders and eight second graders received a small group instruction control treatment. A quasi-experimental, pre/posttest design, revealed no significant difference between the percentile scores of both first grade groups and no significant difference in grade level placement frequency distributions between first grade groups and between second grade groups on the Gates-MacGinitie Reading Test (1989). While there was a significant difference in percentile scores found between second grade groups, the control group increased scores significantly ($p < .007$) more than the experimental group. Due to data inconsistencies and possible data contamination, a post hoc analysis was conducted with reading scores from the Iowa Test of Basic Skills (1986). Results indicated that the second grade experimental group increased reading comprehension

scores significantly ($p < .005$) more than the control group. No other significant differences were found. It was concluded that experimental tutoring was more effective in increasing reading comprehension performance for second grade subjects.

ACKNOWLEDGEMENTS

I would like to recognize the members of my thesis committee for all your support, input, patience, and assistance you gave at each stage of my study. To Dr. Keith Allred, thank you for your valuable input on demographic data and the mechanics of writing. To Dr. Jerry Ligon, thank you for your insight on relating my study to my research in detail. My entire committee displayed a wonderful sense of humor and a positive attitude which motivated me to continue to put forth my best effort, even through the post hoc analysis.

The efforts of Dr. Judith Ivarie, my committee chairman, were especially valuable and appreciated. Thank you for all the faith you have in me and my work. Your positive support, pertinent information, enormous amount of your time given, and expertise enabled me to complete my thesis. The grace, charm, knowledge, and positive attitude you possess, as a role model, are an inspiration to me personally and professionally.

I would also like to thank Mr. Durl Kruse, principal and director of the programs studied. His cooperation and assistance made this study possible. The insight on research statistics given by Mr. Gregory

Ozimek, graduate assistant, helped to facilitate this study and are greatly appreciated.

For the patience and constant encouragement of my husband, Dave, I extend heartfelt gratitude. I sincerely appreciate all your cooperation and support which helped me complete this degree.

Introduction

Success in first and second grade, particularly in reading, is a prerequisite for success in a child's school career. Therefore, an appropriate time for compensatory reading intervention is in the first and second grade. This early intervention can prevent reading deficits from growing and reduce the need for remediation at lower grade levels (Hawkins, 1985; Pinnell, 1985; Boehnlein, 1987; Slavin, 1989). For a student experiencing difficulty learning to read, this early intervention in first and second grade is especially crucial since these students are at risk for reading failure in their school career.

In recent years, Chapter One compensatory programs have been established to provide intervention and assistance in reading to students who are at risk for reading failure at all grade levels. Although a review of the related literature has shown that Chapter One Programs have been effective in increasing reading achievement for at risk students, Chapter One programs have been reviewed to determine which programs are the most effective (Birman, 1988; Slavin, 1987; Savage, 1987). Results from these reviews have been used to

experiment with changes in the Chapter One programs to make them more effective for student achievement (Birman, 1988; Slavin, 1987).

One component of a Chapter One program found to be an effective program in increasing reading achievement for students at risk for reading failure was an intensive supplementary program of preventive one on one tutoring. The purpose of this program was to prevent the development of early reading problems (Slavin, 1987). Additionally, Chapter One programs which were linked to regular classroom reading programs and programs which utilized teacher's aides who were trained in specific techniques of reading instruction were also found to be some of the most effective programs in the review (Birman, 1988).

Savage (1987) advocated that a change in Chapter One delivery would improve Chapter One effectiveness by using new ways to distribute Chapter One funds, relating the Chapter One curriculum to the regular classroom curriculum, and utilizing achievement accountability for principals and teachers. Results of a research study conducted by Levine, Holdsworth, & Aquilla (1987) indicated that a modified program, funded by a change

in expending of Chapter One money, showed increased reading and math scores on achievement tests. In this experiment, the school district modified arrangements for expending Chapter One funds by using Chapter One money to organize Project Alternative Rooms for Chapter instruction in eligible schools. Student participants in the program received Chapter instruction in double-staffed self-contained classrooms rather than through traditional programs in which students were "pulled out" from the regular classroom. This modified program emphasized basic skills, small group instruction, writing, language arts, reading, spelling, and staff development.

Many educators are now advocating that Chapter One funds and resources be provided to change many traditional Chapter One programs to include several of the previously mentioned methods that were found to be more effective in increasing reading achievement for children at risk (Savage, 1987; Slavin, 1987; Birman, 1988). Given the effectiveness of early intervention in reducing reading problems in later grades, an emphasis is also being made to channel a greater amount of resources and funds into programs for students at

the primary level in education (Boehnlein, 1987; Pinnell, 1985; Savage, 1987). Reviews of existing Chapter One programs have indicated that early intervention has been effective in increasing reading achievement and sustaining gains in reading achievement through the end of the second grade for participants in these Chapter One programs (Slavin, 1987; Savage, 1987).

Statement of the Problem

Some learners in the first and second grade are at risk for reading failure and are in need of educational intervention to increase their academic success in reading in the later grades.

The purpose of this study was to provide intensive supplemental reading assistance to those students experiencing difficulty during the first years of their school experience. In order to determine the effectiveness of this early intervention program, a study was conducted on Chapter One programs in two schools. One school, the experimental school, participated in an early intervention program using a target population of students in the first and second grade who were identified as Chapter One participants for academic instruction. The other

school, the control school, participated in a traditional pull out program, using a similar target population.

Review of Related Literature

Early Intervention

A review of the research studies supported the premise that early intervention in reading is effective. Early intervention programs for first grade and kindergarten subjects reviewed in a meta analysis were shown to have increased reading achievement by at least 25% of an individual standard deviation for each child. In order for early intervention programs to be identified as effective in this meta analysis, programs had to be models that could be replicated by other schools, programs had to have been evaluated for at least a semester by comparison with a control group or by showing significant gains, and programs had to have had effect sizes of at least +.25 in reading (Slavin & Madden, 1989).

In a meta analysis of research on effective Chapter One programs, preventive tutoring programs were early intervention programs that were found to produce substantial gains in reading achievement by

the end of the first grade. These preventive programs used trained adult tutors working with at risk first graders on reading skills. Students in these programs were tutored for 15 to 30 minutes per day in addition to their regular classroom reading instruction (Slavin, 1987).

The related literature provided a knowledge base for the effectiveness of early intervention by citing information on programs that are effective in early intervention for children who are at risk of reading failure. An effective early intervention program that is cited is The Reading Recovery Program, designed for kindergarten and first grade students who are at risk in reading. The goals of the program are to help children develop strategies for reading, develop systems for promoting their own literacy, and to transfer this use of strategies and systems to their classwork, which helps them achieve success in reading. A premise for this program is that this success assists in decreasing the chance for reading failure later (Pinnell, 1985). In another article reviewing the Reading Recovery Program, teachers provided one on one reading instruction to thousands of first grade students in a longitudinal research

study. After thirty to forty hours of instruction, 90% of the first grade subjects increased from the lowest percent of the class on the reading pretest to the average percent of their class on the reading posttest (Boehnlein, 1987).

A review of two case studies by Hawkins (1985) provided information on benefits of early intervention. Both case studies involved male subjects who were at risk for reading failure after completing kindergarten. School personnel had recommended summer reading intervention programs for both subjects. Following individual instruction in a summer reading center, both subjects were successful in learning to read in grade one. The instruction in the summer reading centers for both boys included vocabulary development, a language experience approach to reading, reading of childrens' literature, and motor skill development. In another article, children who attended Chapter One programs in the primary grades were found to perform better, on the average, in basic skills than pupils who were similarly disadvantaged who had not been attending Chapter One programs, Savage (1987), giving further support to early intervention.

A review of the research and related literature suggested that early intervention in reading is effective for increasing reading performance and fostering academic success for primary aged learners. This early intervention may be effective for both primary aged children at risk in reading and primary aged children identified as being eligible for Chapter One programs since both groups of children exhibit similar characteristics.

Change in Delivery Models for Students Who Are At Risk

A meta analysis of research on programs for students at risk of school failure was conducted to determine which programs were most effective. This meta analysis assisted in identifying ways that the delivery model for increasing academics for at risk students could be changed to make it more effective. Prevention programs in the first grade were identified as one of the most effective types of academic programs for children who are at risk for reading failure (Slavin & Madden, 1989). "These programs apply intensive resources, usually including tutors or other additional staff, to try to enable every child to succeed in beginning reading" (Slavin & Madden, 1989, p. 8). The study

indicated that classroom change programs that utilized remedial tutors, adapted to individual needs, and classroom change programs that frequently assessed student progress were the most effective programs for students at risk for academic failure.

In the related literature, Birman (1988) cited information on effective programs for students who are at risk of academic failure by providing a knowledge base of factors that make Chapter One effective and by identifying ways that Chapter One can improve in increasing the academic performance of students who are at risk for academic failure. Effective programs identified were small classes with instructors that are specialists, programs with aides that are trained in specific instructional procedures, programs in which material was correlated with classroom material, programs which taught higher order academic skills, and programs in which the delivery model was changed to adapt to student needs.

The review of the research and related literature identified certain changes in delivery models for at risk students in which the students had all shown significant increases in academic performance. The review also identified existing

characteristics of programs that had been effective in increasing academic performance of students at risk for failure and students eligible for Chapter One services. This review has implications for the structuring of academic programs for children eligible for Chapter One services and children who are at risk for academic failure.

Tutoring Reading Interventions

Research literature reviewed on tutoring as a reading intervention suggested that tutoring may be an effective intervention for increasing reading performance of primary aged students who are at risk in reading. One study, which investigated the effectiveness of cross-age tutoring on increased reading performance, involved 50 elementary students with reading scores at least six months below grade level. The experimental group received tutoring for 20 minutes each day by elementary students who were older than the tutees. A highly structured reading tutoring model was used. Learning resource teachers provided the control group with small group reading instruction that did not involve tutoring. Both tutors and learning resource teachers were inserviced before the study began. An administrative reporting

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system and a home-based reinforcement program was established for both the subjects in the experimental and the control group.

In this experiment on tutoring effectiveness, involving cross-age tutoring, scores from a reading achievement test and results from a student reading attitude scale were used as the dependent measure. Both the experimental and control group made similar gains on the reading achievement measure. No change occurred in either group on the reading attitude measure. Results indicated that the cross-age tutoring program is a useful tool for providing reading instruction to elementary children with reading problems (Earl, Stennett, & Tomlinson, 1980).

Remedial tutoring programs were identified as one type of program that was effective in a meta analysis of research on effective programs for children who were at risk of failure in reading and math. All programs identified as effective in this meta analysis met certain criteria. Criteria stated that the programs must be models that could be replicated by other schools, the programs had to to have been evaluated for at least a semester by

comparison with a control group or by showing significant gains, and the programs had to provide effects in reading and/or mathematics of at least 25 percent of an individual standard deviation (i.e. the effect size had to be at least +.25). Effect sizes for remedial tutoring ranged from +.50 to +1.1 (Slavin & Madden, 1989).

Another experiment used parent volunteers to tutor 41 primary aged students with special needs, who were labeled learning disabled, emotionally disturbed, and educably mentally handicapped. Each of the 41 subjects were randomly assigned to the experimental or control group. The experimental group received tutoring from their parents during the study and the control group received the home tutoring on a delayed basis following the study's completion. Tutoring materials for parents included teaching materials of ten reading word flashcards and an instructional procedure list. The parent tutors reinforced word recognition skills with the subjects in the experimental group. After a two-week instructional period, subjects in the experimental group scored significantly higher ($p < .001$) on a ten item word recognition test than

subjects in the control group. A post hoc analysis of variance was performed on the data in the study. Results indicated that supplementary home tutoring is effective for increasing word recognition scores for students with special needs (Vinograd-Bausell, Bausell, Proctor, & Chandler, 1986).

In a study on cross-age sight vocabulary tutoring, first through fifth grade students were used as subjects. Tutors, identified as students who were older and more competent readers than the tutees, provided three to four 20 minute tutoring sessions per week. Tutors were trained in sight word game strategies and used sight word lists and concentration game cards to reinforce sight words. Dependent measures used in the experiment were word recognition tests for tutees, reading attitude scales for tutors and tutees, a diagnostic reading test for tutors, and a teacher attitude questionnaire for the subjects' teachers. Results indicated increased sight word vocabulary for tutees and increased reading comprehension for tutors. The attitude scales indicated that the reading attitudes of the tutors and tutees were not affected and the teacher questionnaire showed that teachers felt tutors and

tutees benefited from the program (Levine, 1986).

In another experiment, 80 kindergarten students, identified as eligible for Chapter One programs, who were at risk in reading, were rank ordered according to their total reading scores on a reading skills test. Each pair of subjects, from the lowest scores up, were randomly assigned to experimental and control groups. The experimental group was tutored and the control group was not. Tutors were trained in a specific reading program. Parents tutored children for 15 minutes a session, at least three times a week, for eight months. A post hoc analysis was used with scores as a covariate from reading skill test scores and reading achievement test scores. The results of the study indicated that consistent tutoring resulted in significant increases in reading achievement and long term effects on reading improvement in the subjects (Mehran & White, 1988).

Another study investigated the effectiveness of cross-age tutoring on increasing the reading skills and self concept of tutors and tutees. The tutors were five sixth grade boys with reading difficulties, while five first grade boys who were experiencing reading difficulties, served as tutees. Both sixth

and first grade boys served as subjects in the study. Tutors met with the tutees 30 minutes per week for eight months. During the tutoring sessions, tutors assisted the first grade boys with their classroom reading, under the direction of the remedial reading teacher. The tutors also listened to school problems that the first grade tutees experienced.

Results of the study indicated increased grade equivalent scores on pre/posttest measures of reading achievement, with grade equivalent gains ranging from a year and a half to a three year gain on the test for the tutors. The results from teacher observation and interview indicated improved reading progress in the first grade subjects and improved self concept in both tutors and tutees. A follow-up study on both first and sixth grade subjects showed both groups making satisfactory progress in reading and attitude several years later (Kokovich & Matthews, 1971).

In a meta analysis of research on cost effectiveness of mathematics and reading interventions in schools, peer tutoring of elementary aged subjects in reading and mathematics was found to be more cost effective than computer-assisted

instruction in reading and mathematics for these subjects. The meta analysis of the research supported the idea that both peer tutoring and computer-assisted instruction are more cost effective for schools than reducing class size or increasing day length. Student achievement test score gains were converted to standard deviation units. Ratios were calculated to rank alternative interventions in math and reading from data on intervention effectiveness (Levin, Glass, & Meister, 1987). This study assisted in supporting tutoring as an effective and economical intervention for increasing reading performance of primary aged students.

In summary, the research literature reviewed on tutoring as a reading intervention suggested that tutoring may be an effective intervention for increasing reading performance in primary aged students who are at risk in reading. While this this research suggested that tutoring is an effective intervention, more research needs to be done to confirm its efficacy as an effective reading intervention for primary aged children who are at risk of reading failure. The research

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also has implications for children eligible for Chapter One programs since they exhibit characteristics that are similar to children at risk in reading.

Reading Comprehension Strategies

The review of the research identified certain strategies that are effective for increasing reading comprehension in students who are at risk for reading failure. A study involving third grade subjects in low reading groups, Duffy, et al. (1987) supported the use of direct explanation of the mental acts associated with strategic reading as an effective strategy for increasing reading performance in the the subjects when teachers and students were more aware of the specific strategy of direct explanation. Ten teachers of third grade students in low reading groups were randomly assigned to either the treatment group or the treated-control group. The treatment group received training sessions in teaching reading strategies and were told the purpose of the project was to study teacher strategy explanation. Teachers in the treated-control group were inserviced but told a different project purpose. The students in the treatment group were

directly instructed in an explanation of the mental acts associated with strategic reading.

Results of the experiment were analyzed using Multivariate Analysis of Covariance for observations of the treatment and treated-control group, using Analysis of Variance to examine explanation ratings in both groups, and using Analysis of Covariance to increase the power of the F test on reading achievement measures. The results of the study indicated that students of the treatment teachers were more aware of content and reading strategies and scored significantly higher on measures of reading achievement.

In an experiment comparing written, oral, and no pre-reading purpose treatments of basal reading instruction, written and oral pre-reading purpose treatments were found to significantly increase performance in reading comprehension in third grade subjects. The third grade subjects were 36 students from three intact third grade classrooms who had scored between the 13th and 17th percentile on a reading skills test. Pre-reading purpose was a literal, non-detail question written as an imperative statement focusing on the problem in the basal story.

One treatment was administered weekly to each classroom. All subjects received all treatments and all stories in a randomized repeated measure design. A one-way analysis of variance for repeated measures, with a .05 level of confidence, was used to analyze the results. Results indicated that either type of pre-reading purpose is more effective than no pre-reading treatment and that pre-reading purpose treatments are effective strategies in basal reading instruction (Hawes & Schell, 1987).

Another experiment was conducted, using a pre/posttest design, involving 35 second grade subjects who were below grade level in reading and who had been identified as having possible listening comprehension and language deficiencies. Following eleven weeks of treatment (language activities integrated with the subjects' basal reading texts) using intact experimental and control groups, the experimental group's reading performance in the area of retelling stories was the only area of the study that increased significantly, at a .05 level. Dependent measures used in the study were reading and language tests (Sanger, Sheldon, & Lang, 1984).

The related literature identified responsive

elaboration as an effective reading intervention for teaching reading strategies to students who are at risk in reading. In this method, the teacher explains the mental strategy of a reading task and explicitly "talks it through" with the student in a step by step process. The authors suggested that this strategy increases reading performance in students who are at risk for reading failure (Duffy & Roehler, 1987). In another article in the related literature, Reutzel (1985) described the reconciled reading approach as an effective strategy for reading comprehension instruction. This strategy, also called the schema approach, utilizes a basal reader's enrichment activities as a pre-reading session prior to reading the story. In this approach, reading skills are taught prior to reading the basal story to help increase application to the basal text.

In the related literature a project was reviewed in which teacher-made worksheets were constructed in correlation with basal reading stories. The teacher explained the relationship between the worksheets and the basal reading stories each day. Observations indicated that this strategy assisted the students in increased awareness of worksheet purpose and theme in

the basal story (Scheu, Tanner, & Hu-pei Au, 1986).

Another article cited information suggesting that when teachers provide careful explanations about how skills are actually used in reading, students conceptualize reading as a strategic process and use skills strategically to comprehend meaning in the text. The author cited the steps in this strategy to include: 1. the teacher describing the skill strategy model, 2. providing practice in a situation where the skill is used, 3. modeling alternatives to thoughts that block reading comprehension, 4. modeling thinking done when using the strategy, and 5. interacting responsively with students as they develop strategic use of the skill (Duffy & Roehler, 1987).

The review of the research and related literature on reading comprehension strategies identified several methods that are effective for increasing reading comprehension performance. Some of the reading comprehension strategies were identified as being effective for all readers. Thus, these intervention strategies may also be effective for children who are eligible for Chapter One programs and children who are at risk of reading failure.

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General Reading Interventions

Research literature indicated that certain reading interventions were effective in increasing reading performance in elementary aged students. A study involving 26 subjects in grades two through six in the experimental group and 26 subjects in grades two through six in the control group was conducted. All subjects in the study had low reading achievement levels. The experimental group received a treatment of a neurological impress method of oral reading with basal readers. In this method, subjects in the experimental group read in unison with a tutor. The tutor decreased volume as the subjects become more successful in reading.

The dependent measure for reading behavior in the experiment was a standardized word recognition test. After a t test was applied to the mean of the word recognition test, results indicated that the experimental group made significant gains ($p < .0001$) on the word recognition test. Results from a teacher and tutor questionnaire suggested increased fluency in reading and increase in reading speed for subjects in the experimental group. Subjects in the experimental group also exhibited

increased performance on criterion referenced tests (Strong & Traynelis-Yurek, 1983).

In an experiment involving 63 first grade subjects, data was analyzed from dependent measures of intelligence, phonemic segmentation ability, and reading achievement, using a contingency and path analysis of data. The data was analyzed in this study to determine if increased phonological awareness improved childrens' ability to learn to read. Results indicated that phonological awareness increased reading comprehension proficiency (Tunmer & Nesdale, 1985).

The related literature identified certain approaches as effective reading interventions for elementary aged students. One article identified a "sentence combining" technique in which words from the child's basal reader are used to reinforce reading and writing skills. The author stated that the method familiarizes students with the reading material, helps students view reading and writing as an interactive process, increases comprehension of the basal reader, and gives meaning to writing (Reutzel, 1986).

In another article, Shannon (1985) advocated an

an individualized meaning-based reading instruction program as an effective intervention with first grade children. The goals of the program were to promote success in every child in learning, implement individualized instruction, and to use teacher feedback strategies to teach students to become independent in reading. Language experience activities were used to introduce vocabulary and skill work was integrated with meaningful reading material.

One article in the related literature reported that primary aged children can be taught to use the mode of silent reading successfully. The author stated that teachers can use specific observational skills to monitor silent reading. Students were given practice in silent reading, guidance, and feedback from the teacher (Mendak, 1986).

The review of the research and related literature on general reading interventions provided a knowledge base for effective approaches in increasing reading performance in elementary aged readers. These approaches may also be effective for increasing reading performance in children who are at risk for reading failure

and children who are eligible for Chapter One programs.

Research Hypothesis and Questions

Statement of the Hypothesis

The review of the literature suggested that early intervention in reading is effective and that specific programs have been identified as being effective for students who are at risk for reading failure. Many authors indicated that changing the reading intervention method for at risk students who are eligible for Chapter One services to methods cited as effective in the literature would help increase the reading performance of these students. Given the evidence for early intervention and the knowledge of effective methods for students who are at risk for reading failure and considering the notion that more research should be conducted on this topic, it is hypothesized that there will be no significant difference in reading performance on pre/posttest scores on the Gates-MacGinitie Reading Test (1989) of subjects in the Chapter One programs studied.

Research Questions

Will a Chapter One intervention program, using

15 minutes per day of one on one tutoring in specific classroom reading skills and 20 minutes per day of reading group intervention with first grade students (experimental group), increase these students' mean percentile scores on the Gates-MacGinitie Reading Test (1989) to a greater degree as compared to students of the same age and skill level who receive small group instruction for 25 minutes per day in a traditional Chapter One pull out program (control group)?

Will a Chapter One intervention program, using 20 minutes per day of one on one tutoring in specific classroom reading skills with second grade students (experimental group), increase these students' mean percentile scores on the Gates-MacGinitie Reading Test (1989) to a greater degree as compared to students of the same age and skill level who receive small group instruction for 25 minutes per day in a traditional Chapter One pull out program (control group)?

Will the 15 minutes per day of tutoring assistance and the 20 minutes per day of small group intervention be as effective in assisting first grade students (experimental group) to achieve grade level

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placement on posttest scores of the Gates-MacGinitie Reading Test (1989) as the small group instruction for 25 minutes per day in the traditional Chapter One pull out program (control group)?

Will the 20 minutes per day of one on one tutoring assistance be as effective in assisting second grade students (experimental group) to achieve grade level placement on the posttest scores of the Gates-MacGinitie Reading Test (1989) as the small group instruction for 25 minutes per day in the traditional Chapter One pull out program (control group)?

Method

Subjects

Subjects for this study were first and second grade students identified as Chapter One participants for academic instruction. Criteria for selection of all subjects was teacher observation, survey and diagnostic skills test, and consultation between parents and school staff.

First grade subjects in both populations were selected from two kindergarten through fourth grade elementary schools located in the same school district. Fifty-nine percent of the experimental first

grade group were male and 41% female (n=17), while 50% of the control population were male with 50% being female (n=6). The mean age for the experimental population was 79 months whereas the mean age of the control group was 82 months. Experimental group ages ranged from 73 to 93 months and control group ages ranged from 77 to 89 months. Economically, 41% of the experimental population did not qualify for free or reduced lunch and 61% did. In the control group 16% of the students were able to pay for their lunch and 84% qualified for reduced or free lunch. The experimental students were 100% Caucasian in race; whereas, two out of six of the control subjects were Hispanic with the other four being Caucasian in race. Among the experimental group, 78% of the fathers who lived in the home were employed while all of the fathers residing in the homes of the control subjects were employed. Fifty-three percent of the experimental subjects had mothers who were employed as compared to 33% of the control group. While 47% of experimental subjects came from single parent homes (n=17) only two out of six of the control group came from single parent homes. The mean attendance was 94% for the experimental group and 95% for the control population.

In summary, the first grade experimental and control populations were similar in age mean, gender distribution, and attendance mean. However, the groups were different in race distribution, economic status, percentages of fathers employed, percentages of mothers employed, and percentages residing in single parent homes.

Subjects in the second grade experimental and control populations were selected from two schools with kindergarten through fourth grade students in the same school district. Among second grade experimental subjects, 50% were male and 50% were female (n=14) whereas the control population consisted of 63% male and 37% female (n=8). The mean age for the experimental population was 94 months, with their ages ranging from 84 to 104 months, while the mean age of the control group was 90 months, with their ages ranging from 86 to 92 months. While 43% of the experimental population qualified for free lunch and 56% did not, only 37% of the control group qualified for free or reduced lunch and 63% did not. One of the fourteen experimental subjects was Hispanic, with the others being Caucasian in race whereas all the control population were Caucasian in

race. Forty-three percent of the experimental subjects (n=14) resided in single parent homes, while only two out of eight subjects in the control group resided in single parent homes. In both groups all fathers residing in the home were employed. Among the experimental population, 64% of the mothers in the home were employed as compared to 50% of the mothers in the home for the control group. Experimental group mean attendance was 96% while control population mean attendance was 98%.

In summary, the second grade experimental and control groups were similar in age mean, race distribution, employment of parents, and attendance mean. However, the two groups differed in gender distribution, economic status, and percentages residing in single parent homes.

Instructional Staff

Five Chapter One aides implemented the instruction to the experimental group. The mean age of the Chapter One aides was 35 years with their ages ranging from 28 to 31 years. Four of the five aides each had 30 hours of undergraduate education and each held instructional aide's certificates issued by the regional superintendent's office. Only one of the

instructional aides held a B.S. Degree in Education having had two years of experience as a teacher and two years of experience as an instructional aide. Four of the five Chapter aides had no previous teaching experience. All of the Chapter One aides were female. One of the five Chapter One aides resigned from her job in the fourth month of the study and was replaced by the fifth instructional aide that same month. The instructional aides received a five hour inservice training session on strategic reading, reciprocal teaching, responsive elaboration, "Optional Review Activities" for the reading series, tutoring techniques, and monitoring student progress. In summary, only one of five of the Chapter One aides had a teaching degree and previous teaching experience, however all aides received a five hour inservice training.

The certified Chapter One teacher at the experimental school did not work directly with any of the Chapter One students in either of the experimental groups while the certified Chapter One teacher at the control school implemented all instruction for the subjects in the first and second grade control groups. At the experimental school, the certified Chapter One

teacher was directly involved with the formal five hour inservice of the Chapter One instructional aides, informal inservicing of the aides, and in monitoring the progress of the experimental Chapter One program, whereas the certified Chapter One teacher at the control school was only involved with monitoring the the progress of the control Chapter One program along with the direct teaching of the control group subjects. The certified Chapter One teacher at the experimental school was 35 years old, a female, had five years of teaching experience, and held a B.S. and a M.S. degree in education, while the certified Chapter One teacher at the control school was 48 years old, a female, had twelve years of teaching experience, and held a B.S. and M.S. degree plus 32 hours of graduate education. In summary, the certified Chapter One teachers were similar in sex and the fact that they monitored the Chapter One programs, however, they differed in age, years of experience, educational background, and in their work with the Chapter One students, with the Chapter One teacher at the control school having more years of teaching experience, having more advanced educational background, and having more direct involvement with teaching the Chapter One students in

the control groups.

All Chapter One aides worked in close collaboration with the regular classroom teachers to monitor the work and progress of the subjects in the sample population. The collaboration consisted of at least ten minutes of consultation time for each aide and classroom teacher per day. Classroom teachers for the first grade experimental subjects had a mean age of 45 years, with their ages ranging from 31 to 51 years. The mean years of experience for this group was 19 years, with the range of their years of experience being from six to 25 years. The teacher with the six years of experience had also had three years of experience as an instructional aide. This group of teachers were all female with 50% of them having a B.S. in education and 50% of them additionally holding a M.S. degree in education (n=4).

Classroom teachers for the sample population of experimental second grade subjects had a mean age of 52 years, with their ages ranging from 41 to 61 years. The mean for their years of experience was 22 years, with the range for their years of experience being from 20 to 24 years. One of the teachers held a B.S. degree, two of the teachers held B.S. and M.S.

degrees, and one of the teachers held a B.S, M.S., and 16 hours of graduate education (n=4). One out of four of the teachers was a male and the other three were female.

In summary, the first and second grade teachers for the experimental subjects were similar in mean years of experience. However, the two groups were different in range of years of experience, with the first grade teachers having a wider experience range. The groups also differed in age mean, sex distribution, and educational experience, with the teachers for the second grade subjects having more educational background overall.

There were two classroom teachers for the subjects in the first grade control group. The teachers were 43 and 39 years of age with 15 and six and one half years of teaching experience respectively, were both female, and both had a B.S. degree in education. The second grade control group had two classroom teachers. The teachers were 41 and 40 years old with 20 and ten years of teaching experience respectively, were both female, and both had B.S. degrees in education. The classroom teachers for both control groups consulted with the Chapter

One teacher to monitor the students' progress only as time allowed and not on a regular basis.

In summary, the first and second grade classroom teachers for the control subjects were similar in age mean, educational background, and sex distribution. However, the first and second grade teachers differed in their mean years of experience.

Procedure

At the beginning of the school year, students in the first and second grade were identified as Chapter One participants for academic instruction in the study. Seventeen first grade students and 14 second grade students from an elementary school of 535 students were identified as the experimental group in the study. This experimental sample was selected from four first grade classrooms and four second grade classrooms. Subjects in the control group included six first grade students and eight second grade students from another elementary school in the same district with a student body of 275 students. The school from which the control group was selected had only two first grade classrooms and two second grade classrooms. Both the experimental and control groups were pretested in the fall and posttested in the spring

with the Gates-MacGinitie Reading Test (1989).

Five Chapter One aides implemented the instruction to the experimental group. The Chapter One aides individually tutored the first grade subjects for 15 minutes per day in specific reading skills correlated with the Houghton Mifflin classroom reading program. Under the guidance of the classroom teacher, the Chapter One aides also provided an additional 20 minutes per day of direct reading instruction to the first grade experimental subjects, using the "Optional Review Activities" in the Houghton Mifflin basal teacher's manual. The Chapter One aides individually tutored the second grade subjects in the experimental group for 20 minutes per day in specific reading skills correlated with the Houghton Mifflin classroom reading program.

All instructional activities for the experimental group took place in the regular classroom setting. The Chapter One aides worked in close collaboration with the regular classroom teachers to monitor work and progress of the subjects. Tutoring activities emphasized instruction in reading strategies, vocabulary, comprehension, and understanding of the basal stories.

The Chapter One certified teacher implemented the instruction for the first and second grade subjects in the control group using small group instruction for 25 minutes per day in a traditional program in which students were pulled out of the regular classroom setting for instruction in a separate room. Instruction consisted of the reinforcement of classroom reading skills contained in the Houghton Mifflin reading series. The Chapter One teacher consulted with the classroom teachers as time allowed but not on a regularly scheduled basis.

Instrument

Subjects were pretested at the beginning of the study on the Gates-MacGinitie Reading Test (1989) and posttested at the end of the study on the Gates-MacGinitie Reading Test (1989). Level R, Beginning Readiness Skills, was administered to the first grade subjects in the study. Subtests on this test level covered areas of initial consonants and consonant clusters, final consonants and consonant clusters, vowels, and the use of sentence context. Scores yielded from the test were a total of all test subtests. Total Raw Scores from the test were converted into derived scores of

stanines, normal curve equivalents, percentile ranks, and grade equivalents. Percentile ranks and grade equivalent scores were used for comparison in the study. The teacher read the test to a small group of students and they marked test booklets.

Level 1 was administered to second grade subjects in the study and was divided into a vocabulary portion and a comprehension section. This level of the test yielded vocabulary, comprehension, and total scores. Total raw scores were converted to derived scores of stanines, normal curve equivalents, percentile ranks, grade equivalents, and extended scale scores. Percentile rank scores and grade equivalent scores were used for comparison in the study. Teacher read test directions for each subtest to a small group of students. Students read and marked test booklets. Alternative forms of each level were used on the pretest and posttest for both Level R and Level 1.

Design

The quasi-experimental, pretest-posttest design was implemented with an experimental and control group of both first and second grade subjects selected from two kindergarten through fourth grade

elementary schools located in the same school district.

Analysis of Data

The mean percentile total reading scores of the experimental and control groups on the Gates-MacGinitie Reading Test (1989) were compared for both first and second grade groups using an analysis of variance of posttest scores utilizing the pretest as a covariate. Posttest grade equivalent scores from the Gates-MacGinitie Reading Test (1989) were compared to the subjects' grade level placement and analyzed using a chi-square analysis to determine whether frequency distributions on achieving grade level placement in reading differed significantly between the experimental and control groups for both first and second grade subjects.

Results

All subjects in the study were pretested and posttested with the Gates-MacGinitie Reading Test (1989). The mean percentile total reading scores of the experimental and the control groups on the Gates-MacGinitie Reading Test (1989) were compared for both first and second grade groups using an analysis of variance of posttest scores utilizing the pretest as

a covariate. Posttest grade equivalent scores from the Gates-MacGinitie Reading Test (1989) were compared to the subjects' grade level placement and analyzed using a chi-square analysis to determine whether frequency distributions on achieving grade level placement in reading differed significantly between the experimental and control groups for both first and second grade subjects.

The analysis of variance of the mean percentile scores of the first grade groups revealed that there was no significant difference ($p < .05$) between the percentile scores of the experimental and control groups on the Gates-MacGinitie Reading Test (1989). Grade level placement scores based on the posttest were analyzed using a chi-square statistic. There was no significant difference ($p < .05$) in the frequency distributions of first graders achieving grade level placement in reading between the experimental and control groups.

The mean percentile scores of the second grade groups were analyzed using an analysis of variance. The analysis found that there was a significant difference in the increase of mean percentile total reading scores ($p < .007$) of the control compared to

the experimental group on the Gates-MacGinitie Reading Test (1989). Grade level placement scores of the second grade groups were analyzed using a chi-square analysis. This analysis revealed no significant difference ($p < .05$) in the number of students approaching grade level placement scores in reading in either the experimental or control groups using the Gates-MacGinitie Reading Test (1989).

For first grade subjects, the findings of this study supported the null hypothesis that there will be no difference in reading performance on pre/posttest scores on the Gates-MacGinitie Reading Test (1989) for subjects in the Chapter One programs studied. However, for second grade subjects in the Chapter One programs studied, this study failed to support the null hypothesis that there will be no significant difference in reading performance on pre/posttest scores on the Gates-MacGinitie Reading Test (1989). The control group's scores increased significantly from pretest to posttest. Whereas, there was no significant difference from pretest to posttest scores in the experimental group.

The following research questions were answered as follows:

1. Will a Chapter One intervention program, using 15 minutes per day of one on one tutoring in specific classroom reading skills and 20 minutes per day of reading group intervention with first grade students (experimental group), increase these students' mean percentile scores on the Gates-MacGinitie Reading Test (1989) to a greater degree as compared to students of the same age and skill level who receive small group instruction for 25 minutes per day in a traditional Chapter One pull out program (control group)? This question was answered negatively. There was no significant difference in the increase of scores ($p < .05$) between first grade Chapter One subjects in the experimental group as compared to the scores of first grade Chapter One subjects in the control group. Thus, the scores of the experimental group did not increase to a greater degree as compared to the scores of the control group on the Gates-MacGinitie Reading Test (1989).
2. Will a Chapter One intervention program, using 20 minutes per day of one on one tutoring in specific classroom reading skills with second grade students (experimental group), increase these

students' mean percentile scores on the Gates-MacGinitie Reading Test (1989) to a greater degree as compared to students of the same age and skill level who receive small group instruction for 25 minutes per day in a traditional Chapter One pull out program (control group)? This question was answered negatively. While there was a significant difference between groups, the control group increased scores significantly ($p < .007$) more than the experimental group increased scores.

3. Will the 15 minutes per day of tutoring assistance and the 20 minutes per day of small group intervention be as effective in assisting first grade students (experimental group) to achieve grade level placement on posttest scores of the Gates-MacGinitie Reading Test (1989) as the small group instruction for 25 minutes per day in the traditional Chapter One pull out program (control group)? This question was answered affirmatively since there was no significant difference ($p < .05$) in scores between the experimental and control group. Therefore, both treatments were equally as effective in achieving grade level placement on posttests.

4. Will the 20 minutes per day of one on one tutoring assistance be as effective in assisting second grade students (experimental group) to achieve grade level placement on the posttest scores of the Gates-MacGinitie Reading Test (1989) as the small group instruction for 25 minutes per day in the traditional Chapter One pull out program (control group)? This question was answered affirmatively since there was no significant difference ($p < .05$) in scores between the experimental and control group. Therefore, both treatments were equally as effective in achieving grade level placement on posttests.

Post Hoc Analysis

A visual examination of the data revealed some inconsistencies. While scores of the experimental groups were consistent with data from teacher surveys, criterion referenced tests, and teacher year end student summaries, scores of the control groups revealed major inconsistencies when compared to these measures. To investigate these inconsistencies, a post hoc analysis was conducted using data from the Iowa Test of Basic Skills (1986). This test, which had been administered at the same time the Gates-

MacGinitie Reading Test (1989) was, had been administered by personnel not directly involved in the study.

In a visual examination, the mean scores from the reading subtests of the Iowa Test of Basic Skills (1986) were compared to the posttest mean scores of the Gates-MacGinitie Reading Test (1989). This comparison revealed that mean scores for both first and second grade experimental groups were consistent between tests. However, mean scores for both first and second grade control groups were found to be systematically inconsistent between tests in the comparison. The possibility of contaminated data gave support to the use of the Iowa Test of Basic Skills (1986) in the post hoc analysis.

First grade subjects were tested at the end of the study with Level Seven of the Primary Battery of the Iowa Test of Basic Skills (1986). Each subtest yielded a separate raw score. Raw scores from the subtests of Vocabulary and Reading Comprehension were converted into derived scores of grade equivalent, developmental standard scores, national percentile ranks, stanines, and normal curve equivalents. National percentile ranks and grade equivalent scores

were used for comparison in the post hoc analysis. Each first grade teacher read the test to the entire class and the students marked test booklets.

Second grade subjects were tested at the end of the study with Level Eight of the Primary Battery of the Iowa Test of Basic Skills (1986). Each subtest yielded a separate raw score. Raw scores from the subtests of Vocabulary and Reading Comprehension were converted into derived scores of grade equivalent, developmental standard scores, national percentile ranks, stanines, and normal curve equivalents. National percentile ranks and grade equivalent scores were used for comparison in the post hoc analysis. Each second grade teacher read the test to the entire class and the students marked test booklets.

Vocabulary and Reading Comprehension subtest national percentile scores from the Iowa Test of Basic Skills (1986), administered the year preceding the study, were used as the pretest scores in the post hoc analysis. The Vocabulary and Reading Comprehension subtest national percentile scores from the same test, administered during the year of the study, were used as the posttest scores in the post hoc analysis. First grade subjects in the

study had no Iowa Test of Basic Skills (1986) scores from the previous year, when the students were in kindergarten, due to the fact that the test was not administered in kindergarten. Therefore, the first grade subjects could not be included in the pre/posttest post hoc analysis of the Iowa Test of Basic Skills (1986) subtests. For second grade subjects, Vocabulary and Reading Comprehension subtest percentile scores, from the year preceding the study when the subjects had been in first grade, were used as the pretest in the post hoc analysis. Scores from the same subtests of the Iowa Test of Basic Skills (1986), administered during the year of the study, were used as the posttest for second grade subjects in the post hoc analysis. Since there was no data available for two of the second grade subjects in the experimental group, these students were not included in the post hoc analysis. A chi-square analysis was conducted on Vocabulary and Reading Comprehension grade equivalent scores from the Iowa Test of Basic Skills (1986) in the post hoc analysis for both first and second grade subjects in the experimental and control groups.

Since the Iowa Test of Basic Skills (1986) yielded

no composite scores for total reading for either first or second graders, the Vocabulary and Reading Comprehension subtest scores were analyzed separately for the post hoc analysis. Mean percentile vocabulary scores of the experimental and control groups on the Iowa Test of Basic Skills (1986) were compared for the second grade group using an analysis of variance of posttest scores utilizing the pretest as a covariate. The mean percentile reading comprehension scores of the experimental and control groups on the Iowa Test of Basic Skills (1986) were compared for the second grade group using an analysis of variance of posttest scores utilizing the pretest as a covariate. Grade equivalent scores from the Iowa Test of Basic Skills (1986), administered at the same time as the posttest of the Gates-MacGinitie Reading Test (1989) in the study, were compared to the subjects' grade level placement and analyzed using a chi-square analysis to determine whether frequency distributions on achieving grade level placement in vocabulary and reading comprehension differed significantly between the experimental and control groups for both first and second grade subjects. The chi-square analysis was applied to both the Vocabulary subtests and the Reading

Comprehension subtests on the Iowa Test of Basic Skills (1986).

In the post hoc analysis, the research questions were answered as follows:

1. Will a Chapter One intervention program, using 20 minutes per day of one on one tutoring in specific classroom reading skills with second grade students (experimental group), increase these students' mean percentile vocabulary scores on the Iowa Test of Basic Skills (1986) to a greater degree as compared to students of the same age and skill level who receive small group instruction for 25 minutes per day in a traditional Chapter One pull out program (control group)? This question was answered negatively. There was no significant difference in the increase of vocabulary scores ($p < .05$) between second grade Chapter One subjects in the experimental group as compared to vocabulary scores of the second grade Chapter One subjects in the control group. Thus, the vocabulary scores of the experimental group did not increase to a greater degree as compared to the vocabulary scores of the of the control group on the Iowa Test of Basic Skills (1986).

2. Will a Chapter One intervention program, using 20 minutes per day of one on one tutoring in specific classroom reading skills with second grade students (experimental group), increase these students' mean percentile reading comprehension scores on the Iowa Test of Basic Skills (1986) to a greater degree as compared to students of the same age and skill level who receive small group instruction for 25 minutes per day in a traditional Chapter One pull out program (control group)? This question was answered affirmatively. The experimental group increased reading comprehension scores significantly ($p < .005$) more than the control group increased reading comprehension scores (Table 1).

Insert Table 1 about here

3. Will the 15 minutes of tutoring assistance and the 20 minutes per day of small group intervention be as effective in assisting first grade students (experimental group) to achieve grade level placement on vocabulary scores of the Iowa Test of Basic Skills (1986) as the small group instruction for 25 minutes per day in the traditional Chapter

One pull out program (control group)? This question was answered affirmatively since there was no significant difference ($p < .05$) in vocabulary scores between the experimental and control group.

Therefore, both treatments were equally effective in achieving grade level placement on test scores.

4. Will the 15 minutes of tutoring assistance and the 20 minutes per day of small group intervention be as effective in assisting first grade students (experimental group) to achieve grade level placement on reading comprehension scores of the Iowa Test of Basic Skills (1986) as the small group instruction for 25 minutes per day in the traditional Chapter One pull out program (control group)? This question was answered affirmatively since there was no significant difference ($p < .05$) in reading comprehension scores between the experimental and control group. Therefore, both treatments were equally as effective in achieving grade level placement on test scores.
5. Will the 20 minutes per day of one on one tutoring assistance be as effective in assisting second grade students (experimental group) to achieve grade level placement on vocabulary scores of the

Iowa Test of Basic Skills (1986) as the small group instruction for 25 minutes per day in the traditional Chapter One pull out program (control group)? This question was answered affirmatively since there was no significant difference ($p < .05$) in vocabulary scores between the experimental and control group. Therefore, both treatments were equally as effective in achieving grade level placement on test scores.

6. Will the 20 minutes per day of one on one tutoring assistance be as effective in assisting second grade students (experimental group) to achieve grade level placement on the reading comprehension scores of the Iowa Test of Basic Skills (1986) as the small group instruction for 25 minutes per day in the traditional Chapter One pull out program (control group)? This question was answered affirmatively since there was no significant difference ($p < .05$) in reading comprehension scores between the experimental and control group. Therefore, both treatments were equally as effective in achieving grade level placement on test scores.

Discussion

The findings of the investigation supported the null hypothesis since both experimental and control first grade groups increased in their reading performance with no significant difference between groups. These results support research that a variety of (Chapter One) programs in early intervention in reading are effective for first grade students who are at risk (for reading failure) by finding programs were effective in early intervention in reading for first grade primary aged children who are at risk.

However, for second grade subjects, the study failed to support the null hypothesis. The control group increased scores significantly ($p < .007$) more than the experimental group increased scores. The findings of data from both the first and second grade subjects studied failed to support the idea that an experimental change in Chapter One reading intervention methods in (Chapter One) programs would increase reading performance of these students. Several possible reasons for lack of data to support this are: 1. The number of subjects in the control group may have been too small for a valid study,

2. Control group data was possibly contaminated,
3. The idea that since this was the first year for the experimental treatment, details of the mechanics of implementing the new treatment efficiently may have hindered some of its effectiveness.
4. Experimental instructors lacked teaching experience and education in comparison to the experience and education of the control instructor.
5. A larger percentage of experimental subjects subjects resided in single parent homes in comparison to a smaller percentage of single parent homes for the control subjects.

Based on the results of the study, it was concluded that research question number one was answered negatively. Thus, the experimental treatment had no significant impact on the increase in reading achievement performance for first grade students. Seven possible reasons for the lack of significant impact of the experimental treatment are:

1. Considerably larger class sizes for the experimental group than for the control group,
2. The notion that the number of subjects in the control group was too small for a valid study,
3. The idea that since this was the first year for

the experimental treatment, details of the mechanics of implementing the new treatment may have hindered some of its effectiveness. 4. The lack of teaching experience and education for experimental instructors in comparison to that for the control instructor. 5. The possibility of contaminated test data for the control group, 6. A larger percentage of single parent homes in the experimental group, and 7. The fact that it is difficult to demonstrate growth in standardized achievement tests for students at risk, especially in the lower grades. However, the fact that both treatments were equally effective suggests that both treatments have efficacy as reading interventions for first grade students who are at risk and eligible for Chapter One programs.

After reviewing data results, it was concluded that research question number two was answered negatively. The second grade control group increased scores significantly ($p < .007$) more than the experimental group increased scores. Therefore, the control treatment had a significantly greater impact on the increase of reading achievement performance for second grade subjects than the experimental treatment had. Seven possible reasons for the

control group achieving significantly better than the experimental group are: 1. The notion that it is often difficult to demonstrate growth on standardized achievement tests for students who are at risk, especially in lower grades, 2. The small number of subjects in the control group could have effected the validity of the results, 3. The lack of teaching experience and education of the experimental instructors in comparison to that of the control instructor, 4. A larger percentage of single parent homes for the experimental group, 5. The possibility of inconsistencies and contamination of the control group test data, 6. The idea that since this was the first year for the experimental treatment, details of the mechanics of implementation of the new treatment may have hindered some of its effectiveness. 7. The absense of the daily reading group intervention that the first grade experimental subjects had. The first grade students in the experimental program had five minutes less of tutoring per day, but had an additional 20 minutes per day of reading group intervention that the second grade students did not have.

An analysis of the data concluded that both

research questions three and four were answered affirmatively. Thus, both experimental and control programs have efficacy for helping first and second grade learners who are at risk achieve grade level placement in reading. Since this was the first year of the experimental program, continuation of this program in future years could possibly increase achievement in grade level placement to a greater extent.

Due to the inconsistencies in the first and second grade control group data which indicated a possible contamination of Gates-MacGinitie Reading Test (1989) results, effectiveness of both the control and experimental treatments of first and second grade subjects cannot be conclusively substantiated by the data from this test. Therefore, information from the post hoc analysis of the Iowa Test of Basic Skills (1986) was given more support in these concluding statements. Since data was available only for second grade subjects for the pre/posttest post hoc analysis of this test, the pre/posttest poc hoc analysis could only be conducted on second grade subjects.

In the post hoc analysis research question

number one was answered negatively. Thus the experimental treatment had no significant impact on the increase in vocabulary achievement for second grade students. Possible reasons for the lack of significant impact of the experimental treatment are:

1. The the number of subjects in the control group was too small for a valid study,
2. The notion that since this was the first year for the experimental treatment, details of the mechanics for efficiently implementing the new treatment may have hindered some of its effectiveness,
3. The lack of teaching experience and education of the experimental instructors,
4. A larger percentage of single parent homes in the experimental group, and
5. The idea that it is difficult to demonstrate growth on standardized achievement tests for students who are at risk.

However, the fact that the two treatments were equally effective suggests that both treatments have efficacy as reading interventions for second grade students who are eligible for Chapter One programs and who are at risk.

Post hoc data results indicated that the second grade experimental group increased reading comprehension scores significantly ($p < .005$) more than the control

group increased reading comprehension scores, as addressed in the affirmative answer to research question number two. Therefore, the experimental treatment had a significant impact on the increase of reading comprehension performance for second grade students. One reason for the impact could have been the emphasis placed on reading comprehension strategies during inservice and instructional procedure training for experimental instructional aides. These reading comprehension strategies included strategic reading, reciprocal teaching, responsive elaboration, and "talking through" understanding of the basal stories. The findings give support to the efficacy of altering Chapter One programs to stress reading comprehension strategies for increasing reading comprehension achievement. This was especially promising since significant increases in performance were shown during the first year of the change in program treatment. Emphasis on using strategic reading and reciprocal teaching was proposed by Duffy, et al. (1987) and Duffy & Roehler (1987) in the research. The strategy of "talking through" understanding of the basal stories was also supported in the research (Hawes & Schell, 1987). Responsive elaboration was

identified in the related literature as an effective reading comprehension strategy (Duffy & Roehler, 1987).

A post hoc analysis of the data concluded that research questions three, four, five, and six were answered affirmatively. Therefore, both treatments have efficacy in assisting first and second grade learners who are at risk to achieve grade level placement in vocabulary and reading comprehension achievement scores. Since this was the first year of the experimental treatment, continuation of this treatment could increase the students' achievement in grade level placement in future years.

Based on the results of this study, the following recommendations are suggested for consideration.

1. Primary aged students who are at risk demonstrated increased reading achievement following early intervention in (Chapter One) reading programs such as one on one tutoring, reading group intervention, and pull out programs with small group instruction. Therefore such early intervention should be continued.

2. Second grade students who received one on one tutoring treatment daily increased reading

comprehension achievement significantly more than second grade students who received daily small group instruction in a pull out program. Therefore, one on one tutoring, with emphasis on reading comprehension strategies, should be continued in programs.

3. Since this study utilized two specific groups of students from diverse demographic backgrounds and instructors with varied experience and educational backgrounds, results cannot be generalized to all students who are at risk. However, it does suggest implications for treatments that are effective for students who are at risk and students who are eligible for Chapter One programs.

4. Due to the small number in both control groups studied and the possibility of test data inconsistency and contamination further research should be conducted on effective reading interventions and change in programs for Chapter One students and primary aged students who are at risk.

5. Due to the novelty of the experimental treatment and lack of experience of experimental instructors in the first year of the study, a follow-up investigation should be conducted for several years comparing the experimental and control programs.

This follow-up study could have implications for effective change in Chapter One programs.

6. In future studies, assessment administration should be conducted by personnel not directly involved in the study to assure consistency of test data results.

7. Methods for assessing first grade pre/posttest achievement through standardized measures should be further investigated.

8. A follow-up study should be conducted with students who attended Chapter One programs in their primary years to assess reading achievement progress when these students reach the intermediate grades.

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Table 1

Analysis of Variance for Iowa Test of Basic Skills (1986)
Second Grade Reading Comprehension Percentile Scores

<u>Variation Source</u>	<u>Mean Square</u>	<u>F</u>	<u>Significance of F</u>
Covariates	2017.156	10.555	.005 *
<u>Pretest Percentiles</u>			
Main Effects	902.565	4.723	.044
<u>Experimental/Control</u>			
Explained	1459.860	7.639	.004
Residual	191.108		
Total	324.661		

(N=21), $p < .005$ *

Note. The experimental group increased reading comprehension scores significantly ($p < .005$) more than the control group increased reading comprehension scores.