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**The Effects Of A Cross-Age Peer Tutoring Read Aloud
Program On Learning Disabled
Resource Room Students**

**by
Jeffery G. Wellington**

A Thesis

**Submitted in partial fulfillment of the requirement of the
Master of Arts Degree in School Psychology
of Rowan University of New Jersey
May 1, 1997**

Approved by

Professor

Date Approved 4/29/97

Abstract

Jeffery G. Wellington

The Effects Of A Cross-Age Peer Tutoring Read Aloud Program On Learning Disabled Resource Room Students

1997

Dr. John Klanderman, Advisor
School Psychology

Preventing school failure of special education students is an issue of immense proportion. Apart from academic needs, many special education students have needs in other areas such as improved self esteem, social skills and behavior that far outweigh the needs of regular education students. This study was designed to investigate the effects of a cross-age peer tutoring read aloud program on sixteen fifth and sixth grade learning resource room students. The subjects's self-concept, behavior, discipline referral rate and absenteeism rate were examined in a pre / post intervention design. The subjects were required to tutor by reading aloud to third grade students twice a week for approximately ten weeks. Findings indicate no differences which could be attributed to the tutoring intervention were found on the Piers-Harris Self-concept Scale or the Achenbach Behavior Rating Scale both of which were used to measure self-concept and behavior respectively. A small ,yet, significant increase was found in the amount of behavior referrals. There was no difference in absenteeism rates.

Mini-Abstract

Jeffery G. Wellington

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This study examined the effects of a cross-age peer tutoring read aloud program on learning disabled students. Tutors read aloud to third graders approximately twenty times. The variables examined for tutors were self-concept, behavior, discipline referrals, and absenteeism. Results indicate that the tutoring intervention had no effect on any variables.

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CHAPTER I

THE RESEARCH PROBLEM

Preventing school failure of special education students is an issue of immense proportion. Apart from academic needs, many special education students have needs such as improved self esteem, social skills, attitudes toward school and behavior that far outweigh the needs of regular education peers. Educational programs that promote success for special education students in these areas of personal growth are in high demand. Peer tutoring programs may offer some assistance in meeting the personal needs of special education students.

Traditionally, peer tutoring has been an effective means, by which, more capable students were utilized to help less capable students with academic skills. The assumption that tutoring can only be useful in this way is a gross misconception. Tutoring can be used for various purposes that benefit not only the tutee, but, the tutor as well. Furthermore, the view that tutoring is simply another way of transmitting information is equally incorrect; it may be possible to use peer tutoring to meet other needs, such as, the personal needs of special education students.

Purpose

This study will engage fifth and sixth grade learning resource room special education students in a cross-age peer tutoring program. The special education students will act as tutors to Kindergarten and third grade mainstreamed students. The purpose of this study is to investigate possible changes in the tutors self-concept and their behavior as a result of acting as a tutor.

Hypothesis

It has been suggested in the literature that many times tutors learn more than

of social benefits, including increased self-reliance (Byrd, 1990), increased responsibility (Allen, 1976), improved self-esteem (Jenkins & Jenkins, 1981), improved social skills (Argyle, 1976), and small gains on self-concept ratings (Cook, Scruggs, Mastropieri, & Casto, 1986). Furthermore, behavioral changes have been attributed to tutoring. A study by Maher (1982), a much larger study and with significantly older students than the present study, states that anecdotal reports from teachers describe positive changes in social behaviors and reduced rates of absenteeism and disciplinary referrals.

The goal of this research project is to determine if there is reasonable support for the use of cross-age reciprocal peer tutoring to improve self-concept and maladaptive behavior in learning disabled resource room students. Dependent measures will include the use of the Piers-Harris Self Concept Scale, discipline referrals, absenteeism, and teacher rating scales from the Achenbach Behavior Rating Scale.

History

Peer and cross-age tutoring are time honored methods of instruction that occur when a more skilled student helps a lower achieving classmate, or when an older student instructs a younger student.

Peer and cross-age tutoring no doubt has prehistoric origins. Tutorial instruction probably began when parents instructed offspring in the art of hunting and fire making and adolescents instructed younger brothers and sisters about edible plants. Over the centuries this type of instruction has been rediscovered in schools around the globe. (Jenkins & Jenkins, 1987).

Early in the nineteenth century, peer and cross-aged tutoring were more fully developed by two individuals working separately, Joseph Lancaster, a Quaker schoolmaster and, an Anglican Clergyman named Andrew Bell. Both claimed to

be the originator of the idea, however, Lancaster developed the more workable system. (Rekrut, 1994).

As explained by Rekrut (1994), the monitorial system, devised by Lancaster had one schoolmaster who was responsible for a large number of children. The schoolmaster choose older more skilled students to disseminate their skills to the younger less capable students. These older more capable students were also responsible for monitoring the younger student's progress. Lancaster is credited for writing down intricate plans for organizing and operating monitorial schools. He wrote of teaching his tutors about careful planning, a one to ten ratio of tutor to tutees, and concentrating work on the three R's.

In the 1970's a scarcity of teachers caused a resurgence of the use of peer and cross-aged tutors in the United States. These methods of teaching were utilized to make up for the lack of teacher resources. Better students were taught concepts and strategies and in turn taught lower achieving and younger students (Rekrut, 1994).

With this resurgence of peer and cross-age tutoring came a vast amount of research focused at the many possible nuances of these instructional methods. Questions like, which student combinations work best, should students be paired by gender, which content is best to be taught with these methods, and should tutors be trained, were examined.

A decade later cost effectiveness research appeared comparing the effectiveness of peer and cross age tutoring with that of computer assisted learning. This was a response to tight budget crunches faced by school boards. A meta-analysis by Levin, Glass, and Meister (1984) found that tutoring was a more cost effective method than computer aided instruction. The 1984 study by Levin, Glass, and Meister also found that student-to-student teaching was

more effective than lowering class size, increasing class time, and instituting adult tutoring interventions.

In the early eighties, a new instructional method began to appear in schools. This new method was called cooperative learning. Cooperative learning is students working together to reach set goals and it is based on the premise that students learn best from other students. Cooperative learning is mentioned here because it is part of the history and resurgence of tutoring. The fact is cooperative learning relies heavily on Joseph Lancaster's belief that children learn most effectively from other children. Furthermore, the success of cooperative learning shows that more than just one person benefits from the collaboration as does contemporary research on tutoring.

Much of the research on peer and cross-age tutoring has been focused on the benefits accrued by the tutee (the person being tutored), however, some contemporary research has taken a different direction. This research has investigated tutoring from a different perspective best described from the ancient Latin dictum, *Qui Docet Dicet* (one who teaches learns) (Osguthorpe, 1985). Investigations of the effects of tutoring on the tutee were so engrossing that the effects on the tutors were neglected. Recent research has shown that similar effects may be evident for the tutors as well. This realization could have some serious implications for special education students, who, traditionally are found in the role of tutee.

It seems logical that special education students are found in the role of tutee because of their lower academic achievement. Naturally, a higher achieving student would be the better choice for tutor in a tutoring dyad focused on academics, but what if academic gains are not the only goal of the tutoring sessions. If personal and social development is also of interest, as current

tutoring research seems to indicate (Top & Osguthorpe, 1987) then research should be conducted on the feasibility of involving special education students as tutors for they have even higher needs in self-esteem, responsibility, social skills, and attitudes toward school (Byrd, 1990).

Some recent research has focused on Reciprocal peer tutoring. Reciprocal peer tutoring is an instructional format in which a special education student provides instruction for one or more regular class students. The regular class students are generally younger to ensure that the skills of the special education tutor are superior to the regular education tutee.

Reciprocal peer tutoring may hold a key to improving some special education students personal and social development. Top and Osguthorpe (1987) state, “ Logic would suggest that if a handicapped student were to tutor a non-handicapped student successfully, the tutor’s self-concept and social acceptance would be enhanced” (p. 414).

A second aspect of tutoring that has been prevalent throughout the history of tutoring is its effect on behavior of those involved. Andrew Bell, one of the originators of the tutoring system noted, in 1797, that classroom behavior problems decreased along with an increase of academic progress (Osguthorpe & Scruggs, 1986). Cohen and Przybcien (1973) have demonstrated that negative behavioral characteristics have been remediated through peer tutoring and Maher (1982) reported that when compared to students who received peer tutoring or group counseling, cross-age tutors had significantly lower amounts of disciplinary referrals.

Definition of terms

Cross-age tutoring Cross-age tutoring is a teaching method in which an older student instructs a younger student.

Peer tutoring Peer tutoring is an instructional method in which a more accomplished student aids a lower achieving classmate.

Reverse role tutoring Reverse role tutoring is an instructional method in which disabled students serve as tutors for regular education students.

Assumptions & Limitations

This study makes two major assumptions about the subjects involved. First, the scale used to measure pre and post ratings of self- concept are self report forms. The assumption is that the subjects in the study will answer the questions honestly. The self-concept self report forms were administered in a group with the researcher reading the questions aloud to the group. Some students may have been hesitant to answer honestly due to their desire for social acceptance. Although the subjects answers were written and not viewed by anyone other than the researcher, some discussion did occur during the administration of the scale, which may have prompted some subjects to answer according to how they thought the group expects them to feel and not how they truly feel about themselves.

The second assumption is that the subjects from the learning resource rooms that were selected and permitted to participate in the study had poor self- concepts and problems with their behavior prior to the study. The main focus of the study is to find a technique or method to improve these two areas in special education students. The students that were used in the study may not have a need for improvement in these two areas.

Three limiting factors of this study are sample size, the type of subjects learning disability, and the scope of the actually tutoring session. In comparison to other studies of this nature sample sizes range in the vicinity of this study, however, sample size is considered a limitation because smaller sample size

reduces the ability to generalize to the greater population. The type of learning disability of the subjects in this study also creates limitations for the generalizability of findings. Subjects in this study were either perceptually impaired or neurologically impaired with one subject being emotionally disturbed and another with the classification multiply handicapped. Finally, the scope of tutoring and the preparation of the tutors was minimal. Most studies of this nature have a more intensive tutor training program and are more in-depth than tutoring read aloud programs.

Overview

The history of tutoring presented above has cast a bright light on the effects of tutoring, however, there are contradictory views about the effects of tutoring, especially regarding social aspects like self-concept and behavior. Many studies found in the literature show that being a tutor does not improve self-concept or maladaptive behavior. Hopefully, this research project will lend support to the idea that tutoring can benefit individuals who have needs in these areas. It is this researchers contention that participating in a tutoring program will enhance the self-concept and behavior of those students who tutor.

In chapter two of this thesis pertinent literature relating to peer tutoring and its effects on special needs students will be reviewed. This material will be presented in a general to specific format. First, outcomes of tutoring meta-analyses will be reviewed. Then the social benefits for behaviorally disordered tutors will be discussed. Next, benefits to self-concept for handicapped students who tutor will be analyzed in a more in-depth fashion. Finally, a succinct summary of findings will be presented.

In chapter three the method section of this study will be outlined. The outline

will explain the pertinent components of the study and how the study will be conducted. Specifications describing the nature of the sample and the devices used for measuring the characteristics under study will be presented. The type of design will be clarified to show how the study will be carried out. The hypotheses will be stated more specifically and the type of analysis model and its appropriateness for this study will be discussed.

CHAPTER II

REVIEW OF THE LITERATURE

Tutoring is a very old form of instruction which has stirred interest in educators throughout society's history. As early as the first century A.D. cross-age tutoring, a form of tutoring in which an older student instructs a younger student, appears in Quintilian's *Institutio Oratoria* (Osguthorpe & Scruggs, 1986). In the early to mid fifteenth century, more reports of tutoring are given by the Spanish and Germans. These programs focused on the benefits received by both the tutee and the tutor in tutoring dyads (Osguthorpe & Scruggs, 1986). By the late seventeen hundreds, Andrew Bell, a Scotsman and Joseph Lancaster, a Quaker schoolmaster working independently developed the first monitorial tutoring system in which a higher achieving student aids a younger or lower achieving student (Rekrut, 1994). Not until recently have educators begun to investigate its effects with handicapped students. The purpose of this literature review is to synthesize the results of investigations that have focused on the personal and social effects of tutoring accrued by handicapped students.

This literature review will first, analyze several meta-analyses. Next, articles concerning tutoring and behaviorally disordered students will be reviewed and finally articles that focus more on improvement in self-concept through tutoring will be examined.

Educational Outcomes of Tutoring Meta-analyses

Cohen, Kulik, and Kulik (1982) carried out a meta-analysis of 65 independent evaluations of school tutoring programs, none of which deal with handicapped students as does this study, however it does discuss the effects found for tutors as well as tutees. More specifically, it discusses the effects tutoring has on the self-concepts of the tutors, which makes this meta-analysis pertinent to this

study. Cohen, Kulik, and Kulik report that 16 studies showed effects of tutoring programs on self-concepts of students who tutored. Twelve of those report that self-concept was higher for tutors than for those who did not tutor. Cohen et al. (1982) further report that the average effect on tutor self-concept was small with effect size being .18; the standard error was .12. However, four studies showed statistically significant differences in favor of students who tutored.

Cohen, Kulik, and Kulik (1982) state that their meta-analysis confirms that tutoring benefits both tutors and tutees, yet, with regard to effects on self-concept findings of a quantitative nature are much less dramatic than anecdotal reports found in the literature.

A feature article in Remedial and Special Education entitled Special Education Students as Tutors: A Review and Analysis by Osguthorpe and Scruggs, (1986) focused on 26 studies which involved special education students as tutors. Much of the literature regarding tutoring focuses on benefits to the tutee and more often than not deals primarily with non handicapped students. Osguthorpe and Scruggs, (1986) cite in this article studies which emphasize benefits derived by the handicapped tutor.

Only one researcher of the 26 cited did not attempt to measure tutor growth. The reason for the investigations into special education students acting as tutors is that researchers are hypothesizing that by teaching a topic to someone else these students will learn it better than if they had been taught by a teacher or learned it from a textbook.

This idea, that to teach a thing helps one to learn the same has been around for a long time. Gartner, Kohler, and Riessman, (1971) quote Joachim Fortius, who in the 1600's said: "If students wish to make progress, they should arrange to give lessons daily in the subjects they are studying, even if they have

to hire their pupils" (pp. 14-15).

Osguthorpe and Scruggs (1986) state that the purpose of most of the studies in their meta-analysis focused on the tutor's improvement in some academic subject, but the researchers were also interested in the personal and social growth of the tutors. Interestingly, the subject being taught by the tutors was not social skills training oriented, yet, the researchers were investigating the enhancement of personal and social development. The researchers postulate that, regardless of the topic being taught, the act of tutoring itself would benefit the tutors personal and social development.

Osguthorpe and Scruggs, (1986) concluded that students do indeed experience academic and social benefits by functioning as either a tutor or tutee. Pertinent to this study is the fact that handicapped tutors experience social benefits by functioning as tutors. Although these findings are promising, they do in fact apply mostly to behaviorally disturbed students and not the less severely handicapped learning disabled student which are the subjects of the present study. However, studies evaluating LD students have been less systematically evaluated probably because such potential benefits have more often served as the major research question for BD students rather than for LD students.

In the Osguthorpe and Scruggs, (1986) meta-analysis an interesting finding regarding the behavior of the tutors and tutees was found in one study by Maher (1982). Maher, (1982) found that the behavior of the BD tutor improved more than the behavior of the BD tutee or the BD student in another experimental group that received group counseling. This finding suggest the important notion that there is something inherent in the act of instructing another, which, goes beyond the more passive learner. Even though this finding applies to BD

students it is possible that it could be generalized to other handicapping conditions.

Another finding in this meta-analysis was reported by Top, (1984). BD students who participated as tutors showed improvement in their perceptions of their own abilities as compared with controls. This is important because self-concept as defined by Borba, (1994) is knowing facts about one's self. Knowing that my ability to tutor is certainly an important fact about one's self and thus an important part of one's self-concept.

From the Osguthorpe and Scruggs 1986 meta-analysis it appears that positive things come to handicapped students who tutor. In fact they specifically say, " Given the generally positive nature of tutoring research one wonders why more teachers do not employ it in their classrooms" (Osguthorpe & Scruggs, 1986, pp. 22).

Byrd, (1990) completed a critical review of articles that focused on peer tutoring with learning disabled students. This review assessed three review articles, six essays and nine empirical studies on peer tutoring. Support for tutoring was provided in each study. In one study from Byrd's 1990 review, Watts and Cushion, (1982) report that peer tutoring with all students, but particularly LD students , facilitates increases in self-esteem. This is consequential because LD students have lower self-esteem than most children and this study shows that they benefit greatly from this technique.

In summary, meta-analysis and critical reviews on the topic of handicapped students who act as tutors seems to have some positive effects on self-concept, and esteem but these effects are much less dramatic than anecdotal reports found in the literature. Also BD students who acted as students showed improvement in their perceptions of their own abilities.

Social Benefits for Behaviorally Disordered Tutors

The following is a synopsis of studies that have investigated the effects of tutoring on behaviorally disordered students who have acted as tutors. It seems that social benefits to BD tutors have been more systematically evaluated than social benefits to Learning Disabled (LD) students, probably because potential social benefits have more often served as the major research question for BD students (Osguthorpe & Scruggs, 1986). Since the general focus of this current study will investigate the social benefits for LD students and there are so few studies regarding this topic a look at the potential benefits to BD students seems relevant.

Csapo (1972) reported that BD students that acted as tutors demonstrated growth in social functioning. Lane, Pollack, and Sher (1972) also reported that while tutoring BD students showed improvement in social functioning. Lane et al. (1972) further found evidence supporting decreased disruptive behavior and that tutors themselves reported increased self confidence, more responsibility and expressed less anger than they had before acting as tutors. (Osguthorpe & Scruggs, 1986 p. 21).

Kauffman, (1985) notes that inadequate social and academic behavior, interest in and attitude toward school and academically related tasks, as well as self-concept are common problems of students with behavior disorders . A tutoring program for behaviorally disordered students can easily be imagined. A tutoring program in which a behaviorally disordered student tutored a younger or less capable peer may gain more confidence, academic knowledge and improve upon his / her social functioning.

A tutoring study involving behaviorally disordered students was performed by Franca, Brazil, Kerr, Reitz, and Lambert, (1990) which found among other

things that a significant increase in positive social interactions between the tutor and the tutee in each dyad and less frequent negative social interactions between tutors and tutees(pp. 109).

The Franca et al. (1990) study focuses on both academic and nonacademic aspects of behavioral disordered students, however only the nonacademic aspects will be examined for this review.

Eight students of a self-contained class in a private school for emotionally disturbed behaviorally disordered students took part in this study. All students were male and ranged in age from 13 years 9 months to 16 years 3 months. A wide range of problems were demonstrated by all the students including aggressive behavior toward peers and adults, inattentiveness, and oppositional behavior (Franca et al., 1990).

Measures of nonacademic performance were collected on sociometric status, self-concept, and dyadic social interactions. The peer nomination and peer rating scale measures of sociometric status, the Piers-Harris Children's Self-Concept Scale, and the Estes Attitude Toward Math Subscale were given in a pre / post test fashion.

The actual tutoring procedure was carried out during the regular classroom math period. Tutoring sessions lasted approximately 15 minutes each. The tutoring subject was addition, subtraction, multiplication and division of fractions. Tutors used a teacher made instructional package.

Since there were limited opportunities for social interaction in the classroom during the tutoring sessions, social interaction observation took place during gym class.

Baseline observations report that social interactions between the tutor and the tutee occurred on the average 3.5% of the observational time for the tutors.

During the peer interventions , positive social interactions increased almost twofold to 9.2% of the observational interval for the tutors (Franca et. al., 1990).

Data on negative social interaction also occurred. At baseline negative social interactions occurred 0.3% of the observational period, while, during the tutoring intervention these types of interactions decreased for the tutors to 0%. (Franca et al., 1990) .

Although, there were some positive changes with regard to social interactions other sociometric measures, such as, student social status and self-concept were not consistent across tutors. Interpretation of the effect of peer tutoring on students' self-concept, established through the use of the Piers-Harris Self Concept Scale, showed slightly higher scores for most students after acting as tutors, but , others did not. This is an interesting finding and relevant to the current study because the Piers- Harris Self-concept Scale will be utilized to measure the effect on LD students who act as tutors.

Franca et. al. (1990), suggest one possible reason for the lack of clearly significant changes in self-concept. Longer term peer tutoring programs, those lasting from 3 to 6 months, generally report more positive findings with regard to the students behavior changes. More time spent tutoring may increase the effects brought about by tutoring. The current study will require students to tutor for approximately 3 months . This may increase the chances of some effect being found in self-concept as reported by the Piers-Harris Self-concept Scale.

A study by Maher, (1982) found that conduct problem adolescents had reduced absenteeism and disciplinary referrals during a peer tutoring intervention in which they were tutoring elementary age educable mentally retarded children. The present investigation will also use absenteeism and discipline referrals as dependent measures. Furthermore, anecdotal reports by

teachers, in structured interviews, after the study, revealed that the majority of teachers of the students who served as cross-age tutors mentioned that they had observed positive changes in social behaviors. Similar responses were not forthcoming from other teachers who had students participate in a counseling group or in a peer tutoring group where the conduct problem students acted as tutees instead of tutors (Maher, 1982). The present investigation will look for similar improvements in LD students, however it will use the teacher report form of the Achenbach Behavior Rating Scale rather than simple anecdotal reports.

A 1986 study by Scruggs, Mastropieri, Veit and Osguthorpe also report positive anecdotal findings from the behaviorally disordered students who actually did the tutoring. Of the 11 tutors involved in this study 9 reported having learned from tutoring. When asked what they learned responses included things like "learned how to teach"; "how to be responsible"; "what teachers go through"; and "how to ignore inappropriate behavior". Five of the eleven tutors said tutoring had changed them. Some of their comments were "I became more responsible."; "I'm not so bossy now." ; and "I understand teachers better." Seven responded that tutoring had helped them with their own problems and one student reported that "I learned to think things out. When I saw my tutee have a fit, I saw how I looked." (Scruggs et. al., 1986, pp. 41).

Although this study by Scruggs et. al. (1986) found some anecdotal evidence that behaviorally disordered students benefited from tutoring, no empirical evidence was found to support the use of tutoring with this sample of students.

An earlier study by Scruggs (1985) found that behaviorally disordered students appear to benefit in areas directly involving the tutoring intervention. Specifically, attitudes toward the content being tutored can be expected to

increase on the part of the tutor.

In brief, behaviorally disorder students who tutor can be expected to show increased positive social interactions with their tutees and decreased negative social interactions with their tutees. They can be expected to have improved attitudes toward the content being tutored. Behaviorally disordered students can also be expected to have decreased amounts of discipline referrals after having acted as a tutor. It may be concluded, then , behaviorally disordered students (and perhaps many others involved in tutoring interventions) receive benefits from the act of tutoring.

Benefits to Self-Concept for Handicapped Students Who tutor

Haggerty, (1970) investigated the possibility that underachieving adolescents might enhance their self-concept if they were to tutor. This assumption was based on previous research which determined that poor academic success and low self-concept are related. The review of the study that follows was an approach aimed at improving both of these by either tutoring or being a counselee in a group that focused around issues like authority figures , school, peers and goals.

Subjects for the Haggerty, (1970) study were 68 underachieving sophomore and juniors at Greece Central High School District No.1 in Rochester, New York. To participate the subjects had to have scored in the 60th percentile or higher on the Differential Aptitude Test, have had below a C average, and have had two disciplinary referrals by October of the same school year.

Pretests and post tests of Bill's Index of Values and Adjustment and the School Attitude Inventory were used to evaluate all subjects. Grade point averages were also evaluated at the end of each ten week term and the end of the year (Haggerty, 1970).

Results of the Haggerty, (1970) study indicate that the tutoring treatment was more effective than the group counseling treatment. Subjects in the tutoring group improved their self-concept and self acceptance according to the pre and post test measures on the Bill's Index of Values and Adjustment and the School Attitude Inventory. Neither the counseling nor the control groups showed any effect with regard to self-concept or self acceptance.

Lazerson (1980) conducted a study which examined gains in self-concept and improvement in behavior. The Lazerson study had three hypotheses all of which were related to some aspect of behavior and self- concept being effected by tutoring. The present investigation is also examining tutoring effects on behavior and self-concept. Lazerson (1980) hypothesized that aggressive and withdrawn participants would show a greater increase in self-concept than the control group; both aggressive and withdrawn participants will show greater decrease of their specific behavioral problems than the control group; and there will be some differences in gains, both behaviorally and in self-concept, from the tutor group to the tutee group (Lazerson, 1980 pp. 44).

The subjects were 60 withdrawn and aggressive 2nd through 8th grade students from the College Learning Laboratory, State University College at Buffalo, N.Y. The older 5th through 8th graders were randomly assigned as tutor or control group member while the younger students were assigned to be either a tutee or control group member. It was presumed that older students would find it easier to teach younger students especially since most of the subjects also had academic problems as well. The present study also makes this presumption and the Learning Resource Center students that will act as tutors were chosen from the upper 5th and 6th grade classrooms to tutor kindergarten and third graders in reading. After randomization, 20 subjects were in each of

the three groups; tutor, tutee, and control. (Lazerson, 1980 pp. 45).

Lazerson (1980) used two criterion measurement instruments. The first was a scale that notes the discrepancies from the child's concept of actual self to ideal self. This scale based on one used by Luszki and Shmuck (1960) was used to evaluate self-concept. Lazerson adapted the scale by adding several terms, this of course reduces the validity and reliability of the findings because the added terms were not in the initial norming of the scale by Luszki and Shmuck. The current study will use the Piers-Harris Self-Concept Scale in a pre / post test fashion without any adaptations thus any findings should be more reliable and more valid. Reliability and validity of the measurement instruments for the current study will be presented in the design chapter. An example of the self-concept scale used for the Lazerson study appears in figure 2.1.

FIGURE 2.1 Self-Concept Scale

I am			I'd like to be		
Almost always	Half of the time	Hardly ever	Almost always	Half of the time	Hardly ever
			Friendly		
			Bored		
			Studious		

The second measurement instrument was the Devereaux Elementary School Behavior Rating Scale (DESB). This scale was used to measure aggressive and withdrawn manifestations. Only cluster items that identify aggressive and withdrawn behavior were used to make the DESB more specific to the study and to reduce the teacher time filling out forms (Lazerson, 1980 pp. 45).

The tutoring sessions continued for five weeks. Each participant tutored for a maximum of 23 sessions. Prior to tutoring the tutors and the researcher met twice for brief training sessions. The tutors were taught how to correct and how to reinforce correct answers.

Results of the DESB showed that the students who attended the most tutoring sessions made the greatest gains. The Pearson product moment correlation in the area of behavioral improvement was .80 with a significance level of $t=13.70$, ($p<.005$, $df = 38$, $R: H>2.711$). Lazerson (1980) states that these results were highly significant ,yet, it was impossible to make a determination of cause and effect because of other factors like the motivation of the tutors that participated in more tutoring sessions than others. The format allowed tutors to plan their own tutoring times and to attend of their own accord. These highly significant findings maybe a result of the tutors motivation and not the actual tutoring. Even though a cause and effect relationship could not be drawn these findings warrant further investigation. (Lazerson, 1980 pp.46).The current study will not allow for so much freedom of the tutors to attend their sessions. The tutoring sessions in the current study will be supervised by the classroom teachers. The arrangement of time and day for each tutoring session will be set by the classroom teacher so that student motivation for attending the sessions will not be a confounding factor. In this respect the present study will have a stronger design.

To analyze the results of the self-concept scale the Kruskal-Wallis one-way anova was used. Lazerson (1980) reported that the observed value of $H= 8.15$ was not sufficient to achieve significance ($p<.05$, $df=7$, $R: H> 14.07$); thus the null hypothesis was retained. The experimental group showed higher gains than the control group (pp. 46).

The Pearson product moment correlation used to determine the relationship between the number of times of peer tutoring and self-concept was very high. The correlation was .55 with a $t=11.29$ ($p< .005$, $df=38$, $R: H>2.71$).

In brief, Lazerson (1980) examined gains in self-concept and improvement in behavior for sixty students. Both aggressive and withdrawn children were used in the study. Tutoring pairs were made up of students with similar problems. Almost all subjects who participated showed higher gains than the control group with respect to behavioral improvements and self-concept.

In a meta-analysis by Cohen, Kulik & Kulik (1982) 65 studies were examined. Of the 65 studies, 16 reported on the effects of tutoring programs on the self-concept of students who tutored. In 12 of those studies, self-concept of tutors was higher than for those who did not serve as tutors. Cohen et. al (1982) report however that average effect sizes were small. The mean effect size (ES) was .18; the standard error was .12. Four of the studies showed statistically significant differences in self-concept, favoring those who tutored. Cohen et. al (1982) did not specifically state which 4 of the 65 reported these findings.

Summary of Findings

Even though the instructional method of tutoring has been in use perhaps since prehistoric times; it has certainly been a popular instructional technique for several hundred years. Even with such an extensive history much still needs to be learned about this multifaceted technique. The literature is full of studies

investigating tutoring with mainstream students, less with handicapped students, and even less in which handicapped students participated as the tutors. To narrow the scope even further this researcher sought studies that focused on affective benefits such as enhancement of self-concept and decreases in maladaptive behaviors for handicapped tutors. Studies which focused on academic gains for handicapped students were deleted from the literature search unless self-concept and behavior were identified as part of the dependent measures.

With such narrow parameters in which to search, studies were difficult to find. Many studies that were found reported stronger anecdotal findings than empirical evidence. However, studies that did report empirical evidence were located and are summarized here.

Meta-analytic findings indicate support for using handicapped students as tutors in efforts to improve their self-concept and maladaptive behaviors. Studies show that self-concept of tutors was higher than for those who did not serve as tutors. Although significant, mean effect sizes were small.

Meta- analyses also showed reductions in inappropriate behaviors and increases made in more positive remarks by handicapped students who tutored.

Absenteeism and discipline referrals were also found to decrease for behaviorally disordered students when compared to two other groups; one group which received peer tutoring and the other group which received counseling.

Many of the studies that have investigated the effects on self-concept and behavior of handicapped tutors has employed behaviorally disordered students. It was found in one study that BD students increased their positive

social interactions twofold while decreasing negative social interactions.

Finally, a study completed with aggressive and withdrawn students as tutors showed that the members of the tutoring experimental group who attended all tutoring sessions showed improvements in self-concept over the tutors in the control group. This was not true for tutors in the experimental group who took a less than conscientious attitude toward their tutoring roles and did not attend all the sessions.

CHAPTER III

RESEARCH DESIGN

Subjects

Participants in this experiment were 29, fifth and sixth grade Learning Resource Room students from a large k-6 elementary school located east of Atlantic City, New Jersey. The students were classified one of four New Jersey special education classifications. One student was classified emotionally disturbed (ED), two students were multiply handicapped (MH), three were neurologically impaired and 22 were classified perceptually impaired.

The participants were selected from a possible 46 learning resource room students. Students who participated were those who returned consenting parent permission forms.

Once the general population had identified, the students were randomly assigned by class to either the experimental (tutor) group or the control(non-tutoring) group. Eighteen students participated as tutors while 11 students participated as controls for the experimental group. Tutors included one MH student, one NI student, one ED student, and 15 PI students. Control students included two NI students, two MH students, and seven PI students. The tutoring group included 9 females students and 9 male students. The control group included 2 females and 9 males.

Objectives and Hypotheses

The purpose of this study is to ascertain the self-concept and behavior

benefits accrued by learning disabled students, after they have acted as tutors in a cross-age tutoring program. The study focused on three hypotheses for each of the four dependent measures. The twelve null hypotheses are: First, there is no effect between pre and post scores on the dependent measures of absenteeism, discipline referrals, behavior and self-concept. Second, there is no effect between the experimental group and the control group on the dependent measures of absenteeism, discipline, behavior and self-concept. Finally, if differences between tutor and non-tutoring groups are found it is hypothesized that there will be larger differences in self-concept and behavior on behavior rating scales and these differences will be investigated. The null hypotheses will not be accepted at a .05 level of significance.

This researcher believes that: (1) participants will show a greater increase in self-concept than the control group; (2) participants will show a decrease of their specific behavior problems in comparison to the control group; (3) participants will show decreased absenteeism in comparison to the control group; and (4) participants will show a decrease in discipline referrals in relation to the control group.

Procedure and Schedule

Random assignments to either experimental group or control group were done by choosing classroom teachers names. Students were not randomized individually, but as a group according to who their teacher was. Absenteeism and discipline referral information were collected spanning the period from

September 5, 1996 to the start of the actual tutoring sessions on November 6, 1996. All the LRC room teachers were instructed to administer the Piers-Harris Self-concept scale as a group to their classes. Teachers were also instructed to complete the Achenbach Behavior Rating Scale TRF on each student who returned the parent consent form. These two scales were returned to the experimenter and coded with a number or letter to maintain anonymity. Experimental group participants received a number code and control group participants received a letter code. Theme books and story books were collected from the teachers of the tutees from which the tutors would read aloud to the tutees in future read aloud tutoring sessions. Students prepared for tutoring sessions by reading the books silently to themselves a week before reading to their tutees. Tutors were also given time to practice reading aloud and showing pictures in front of their tutoring peers before going to the tutoring sessions in either a kindergarten or second grade classroom. Tutoring sessions continued for twenty tutoring sessions twice a week for ten weeks. Upon completion of the tutoring sessions absenteeism and discipline referral data were collected again and the Achenbach Behavior Rating Scale and the Piers-Harris were readministered.

Design and Analysis

This experiment is a mixed two factor design. Four different two way analysis of variances will be carried out, one, for each of the four dependent measures: absenteeism, discipline referrals, self-concept and behavior. The two

groups are the experimental tutoring group and the non-tutoring control group. Members of the final population were randomized to either the experimental group or the control group by classroom not as individuals. This was done to decrease schedule changes and the amount of make-up work that students would have to complete.

Criterion Measures and Instruments

Absenteeism and discipline referral data will be gathered on each student in both the experimental and control groups before and then again after the tutoring sessions have been implemented. Absenteeism and discipline referrals will be taken from official school records. The absenteeism records will be recorded by homeroom teachers. Discipline referrals will also be taken from official school records; referrals for discipline problems can come from any school staff member.

Self-concept will be evaluated by the Piers-Harris Self Concept scale. This 80 item self report questionnaire was designed to assess how children and adolescents feel about themselves. The scale is intended to be used with children in the age range of 8-18. The scale can be given individually or in groups. Children are shown 80 statements of how people might feel about themselves, and are asked to indicate with a yes or no answer if the statement applies to them. The statements are written on a third grade reading level.

A global assessment of self-concept is represented in three separate scores, a total raw score, a percentile score and a stanine score. Six cluster scores are

also provided with the Piers-Harris for more detailed clinical interpretation. These scales are, Behavior, Intellectual and School Status, Physical Appearance and Attributes, Anxiety, Popularity, and Happiness and Satisfaction.

The Piers-Harris is a highly reliable instrument. Test-retest reliability coefficients range from .42 to .96. Internal consistency estimates for the total score range from .88 to .93 (Piers, 1984 p57).

Piers (1984) suggests that the standard error of measurement should be employed for interpretation of individual scores. A difference significant at the .05 level would require a change of over 8 score points of almost twice the standard error of measurement. Therefore, Piers (1984) recommends that individual changes in scores of less than 10 points be ignored.

In a retest situation, consistent changes, up to five points, have been found in favor of a more positive self-concept even when there has been no treatment or intervention applied. Piers (1984) states this may be a result of familiarity with the items on the test. Knowing this information only reemphasizes the need for a control group, before making any claims about changes in self-concept in a group receiving treatment (Piers, 1984 p.57).

Through a number of empirical studies, estimates of the content, criterion-related, and construct validity of the Piers-Harris have been obtained. Item analysis, inter-correlations among the scales and items, and comparison of the responses of various criterion groups have been used to establish validity of the Piers-Harris. Most important are the studies which compare the Piers-Harris to

other scales designed to measure similar constructs.

Results indicate strong validity between scales that have similar format and age range of subjects. For example, the Coopersmith Self-Esteem Inventory, which resembles the Piers-Harris in format and age range show a correlation of .85. Other scales intended for use with lower age range subjects have lower validity coefficients. For example the Pictorial Self-Concept Scale has a correlation of .42.

Behavior will be evaluated by two measurement devices. The first has already been mentioned in the first paragraph of this section. It has been established that behavior differences will be investigated by the number of discipline referrals submitted by school staff members. The second device used to measure behavior will be the Achenbach Behavior Rating Scale Teacher Report Form.

The Achenbach Teacher Report Form (TRF) is a 118 item teacher scored scale designed to obtain teachers reports of their pupils' adaptive functioning and problems in a standardized format. The TRF is a means for comparing a particular child's functioning, as perceived by a particular teacher, with the functioning of normative samples of peers, as perceived by their teachers.

Although, the TRF requests teachers ratings of performance in academic subjects, four adaptive characteristics, 118 specific problem items, and two open-ended problem items only the 118 specific problem items section of the test will be utilized for this study. This modification is made because academic

performance and adaptive characteristics are beyond the scope of this study.

The 118 problem items are scored by the learning resource room teacher who is responsible for preparing and escorting the subjects to their tutoring locations. The problem items are scored on a 3-step response scale. Teachers are instructed to circle one if the item is very true or often true, two if the item is somewhat true or sometimes true, and three if the item is not true.

Normative data for the TRF were established from a subset of a national sample of 5-18 year old children, who were considered healthy in the sense that they had not received professional help for behavioral / emotional difficulties in the last 12 months. 1,613 individuals participated.

Test-retest reliability of the TRF is high with reliability coefficients .90 for academic and adaptive scores and .92 for problem scores. For different teachers who saw the same child, inter-rater agreement was good with a mean $r = .55$ for academic and adaptive scores and a mean $r = .54$ for problem scores.

The TRF is unique in that it is one of only a few scales that utilize teacher rating scales to assess empirically derived syndromes. Another scale that does this is the Conners Revised Teacher Rating scale, which is also probably the most widely used scale of this type. Validity correlations between the TRF and the Conners were completed. Scales most similar to one another correlated from .80 to .83 with the Conners Conduct Problems, Inattention-Passivity, and total problem scores. (Achenbach, 1991 p69). Achenbach (1991) further reports that the closest counterparts of the Conners Hyperactivity scale were the

TRF Aggressive Behavior ($r=.67$) and externalizing ($r = .63$) scales, while the closest counterpart of the Conners Hyperactivity Index was the TRF total problems score ($r= .71$) (p. 69).

CHAPTER IV

ANALYSIS OF DATA

The purpose of this study was to ascertain the self-concept and behavior benefits accrued by learning disabled students after they had acted as tutors in a cross-age tutoring program. The students were evaluated in a pre / post test fashion for four dependent measures. The dependent measures were behavior, self-concept, absenteeism and discipline referrals. Student behaviors were evaluated with the use of the Achenbach Behavior Rating Scale. Self-concept was evaluated with the use of the Piers-Harris Self-concept Scale. Absenteeism and discipline were evaluated by taking records from current school files on each of these items.

The results of this study will be presented in the order set forth by the hypotheses stated in Chapter Three. Each hypothesis will be restated and then the results bearing directly on them will be presented and discussed.

Hypotheses #1-4

Null Hypotheses: There is no effect between pre and post scores for the learning disabled students on the dependent measures of absenteeism, discipline referrals, behavior and self-concept.

Alternative Hypotheses: There is an effect between pre and post scores for the learning disabled students on the dependent measures of absenteeism, discipline referrals, behavior and self concept.

Paired Sample t-tests for Pre and Post Dependent Measures

<u>Variable</u>	<u>t Value</u>	<u>p =</u>
<u>Pre / post Piers Harris</u>	<u>.17</u>	<u>.916</u>
<u>Pre / post Achenbach</u>	<u>3.46</u>	<u>.002</u>
<u>Pre / post Absenteeism</u>	<u>- 1.31</u>	<u>.201</u>
<u>Pre / post Behavior Referrals</u>	<u>- 2.46</u>	<u>.020</u>

Table 4.1 Results Hypotheses # 1-4

Results

Results in table 4.1 indicate a significant difference between pre and post test scores on overall total scores for the Achenbach Behavior Rating Scale. Results of a t-test for paired samples indicate that $t_{20} = 3.46$, $p = .002$. A significant difference was also found when a t-test for paired samples was run for discipline referrals. A t-test for discipline referrals indicated $t_{20} = -2.46$, $p = .020$. Paired sample t-tests run for self-concept and absenteeism showed no significant differences.

Hypotheses # 5-8

Null Hypotheses: There is no effect between the experimental group and the control group on the dependent measures of absenteeism, discipline, behavior and self-concept.

Alternative Hypothesis: There is an effect between the experimental group and the control group on the dependent measures of absenteeism, discipline referrals, behavior and self concept.

Results

Results indicate support for the null hypotheses. There was no difference between tutoring and non-tutoring (experimental and control) groups when pre and post scores were compared with t-tests for independent samples.

Hypotheses # 9-12

Null Hypotheses: There is no interaction effect between the pre and post tests and the experimental and control groups on any of the dependent measures of absenteeism, discipline referrals, behavior and self-concept.

Alternative Hypotheses: There is an interaction effect between the pre and post test and the experimental and control groups on any of the dependent measures of absenteeism, discipline referrals, behavior and self-concept.

Results

As stated in chapter three if differences between tutoring and non-tutoring groups are found interaction effects will be investigated. Significant differences were not found therefore interaction effects were not investigated.

CHAPTER V

SUMMARY AND CONCLUSIONS

Preventing school failure of special education students is an issue of immense proportion. Apart from academic needs, many special education students have needs in the areas of improved self esteem, social skills, attitudes toward school and behavior that far outweigh the needs of regular education peers. Educational programs that promote success for special education students in these areas of personal growth are in high demand. Peer tutoring programs may offer some assistance in meeting the personal needs of special education students.

This study was designed to examine whether the use of a cross-age peer tutoring read aloud program would improve the self-concept and behavior of learning resource room special education students who acted as the tutors. The Piers-Harris Self-concept Scales and the Achenbach Behavior Rating Scales were used in a pre / post test fashion to measure any changes in self-concept and behavior respectively. Discipline referrals and absenteeism rates were also investigated.

Conclusions

The results of the investigation indicated a significant difference between pre and post test scores on overall total scores for the Achenbach Behavior Rating Scales and a significant difference was found when a t-test for paired samples was conducted for discipline referrals.

With regard to the significant difference on the Achenbach Behavior Rating Scale the difference cannot be attributed to the tutoring intervention because the significance was found across all subjects in both the experimental group and the control group, indicating that the intervention was not the reason for the change.

The significance found in relation to the discipline referrals was a negative correlation and contrary to the hypothesis made at the beginning of the investigation. Discipline referrals increased during the tutoring intervention. However, it is believed that the increase is probably due to the natural course of time rather than the tutoring intervention. The longer students are in school the higher the probability of receiving more discipline referrals.

Discussion

The focus of this study was to investigate the social benefits for learning disabled students when they acted as tutors. The evidence suggests that acting as tutors has no positive change with regard to self-concept, behavior, discipline referrals and absenteeism. One possible reason for the lack of findings is that incidental sampling was used. Incidental samples consist of subjects who are readily available to use but may not be the most appropriate to use. Upon completion of pre-intervention testing it was found that most subjects scored high on the Piers-Harris Self-concept Scale which means that they already had adequate self-esteem and no matter what intervention was introduced their scores did not have much chance of moving in the positive

direction.

Similarly, scores on the Teacher Report Form of the Achenbach Behavior Rating Scale were low indicating that the majority of the students in the study did not have significant behavior problems which would be effected by any type of intervention unless it were in a negative direction. Therefore, anyone making generalizations from this study should be extremely cautious.

The group of students in this study were not an entirely homogeneous group. Some of the subjects did have more difficulties behaviorally and with their self-concepts, however this group was very small. Anecdotal reports from the teachers who scored these students on the behavior rating scales did say, " My students gained a better understanding of how I must feel when they act out for me. It has opened some doors for discussion on the topic of behavior." Another teacher explained how one of her students who often misbehaves reported frustration in dealing with some of her tutees who acted out during tutoring sessions. In fact one student asked, " Is this how you feel when we misbehave?" This teacher stated, "At least this student had the realization that her behavior affects others and makes teaching a more difficult job when students misbehave."

Implications for Future Research

Implications for further research regarding the issue of behavior might be to recruit a more homogeneous group of students who have learning disabilities and a greater need for behavior improvement. A screening procedure might

be implemented which would accept or reject possible subjects based on a criteria of behavior needs. Those children with a greater need for behavior improvement would be accepted and those without such a need would be rejected. By recruiting children with greater behavior needs more significant differences may be found between pre and post test scores after the tutoring intervention had been implemented.

Much like the difficulties with the behavior rating scales where there was little room for improvement between pre and post test scores a similar situation presented itself with the Piers-Harris Self-concept Scale. Pre-intervention scores on the self-concept scale were so high that there was not much room for improvement on post test scores. A reason for the high scores on the Pier-Harris Self-Concept Scale may be that the scale was administered in a group and the children were discussing the questions during administration. Group administration of the scale is acceptable according to the scale manual. However, the discussion of the questions may have created some social desirability effect resulting in inaccurately high scores. The students may have scored themselves higher in order to look good in front of their peers. A suggestion for future research may be to administer the self-concept scale individually to assure a more accurate representation of the students concept of themselves.

The results of this study suggest very little about the effectiveness of a cross-age peer tutoring read aloud program on behavior and self-concept of learning

disabled children. Implications for further research suggest that a program such as this one may benefit more needy students.

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