BEHAVIORAL EFFECTS OF CROSS-AGE

TUTORING WITH THE EMOTIONALLY

DISTURBED

By

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Bachelor of Science in

Special Education

Oklahoma State University

Stillwater, Oklahoma

1982

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
December, 1985

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PREFACE

This study is concerned with an alternative technique for working with the emotionally disturbed. The primary objective was to determine if cross-age tutoring influenced the self-concept and classroom behavior of elementary age emotionally disturbed children. The study was conducted the last seven weeks of school which may have had an effect on the outcome.

The researcher would like to express appreciation to each member of her master's committee: Drs. Barbara Wilkinson, Bob Davis, and Michael Kerr. A special thanks is extended to Dr. Barbara Wilkinson, thesis adviser, for her valuable time and assistance given to this research, and to Dr. Bob Davis,for his encouragement when times were rough.

Genuine appreciation is expressed to the administrators of Broken Arrow Public Schools and especially to Dr. Joe Crowder, and LD teachers Miss Cathy Scott and Mrs. Vicki Davison for their support and assistance in this study. Also grateful thanks to Miss Chris Stoops for her valuable time and encouragement throughout the tutoring program.

Finally, the researcher would like to express gratitude to her husband, Rick, and daughter, Jessica, without whose sacrifices, support, understanding, and faith this study would not have been possible.

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CHAPTER I

THE NATURE OF THE PROBLEM

Introduction

Cross-age tutoring is not a new concept. King (1982) cites that in the eighth century B. C. the Spartans selected older students to tutor young ones and Quintillan mentioned the success of tutors in Roman schools. By the beginning of the seventeenth century, Spanish Jesuits developed a tutorial system in which one student monitored ten other children according to Krouse (1981). In the 1960's, interest in peer tutoring resurfaced in school systems everywhere.

Numerous research studies (Armstrong, 1979; Dineen, Clark, and Risley, 1977; Jenkins and Jenkins, 1981; and Bar-Eli and Raviv, 1982) have reported academic gains for both tutor and tutee although most studies focus on the effects of cross-age tutoring on the tutee. Academic gains in tutors is best explained by the ancient Roman maxim "docemur docendo" meaning "he who teaches learns." But what about affective benefits for the tutor such as higher self-concept and confidence and reduced frequency of inappropriate classroom behavior?

Building self-concept is a very important goal in the eyes of most educators. Johnson (1983) once said "Educate

the whole child." Teachers must help the child grow not only academically but also socially and emotionally. Special education programs for the emotionally disturbed are attempting to realize this goal. Unfortunately techniques for affective education are limited. This study proposes cross-age tutoring as a technique to use with emotionally disturbed children to strengthen self-concept and reduce inappropriate classroom behavior that disrupts the learning process.

The prestige gained when a child with problems teaches is frequently incalculable. Nevi (1983) states by becoming the teacher, the tutor assumes a teacher's characteristics. The role playing produces changes in behavior, attitudes, and self perceptions consistent with expectations associated with that role. The child who is given the responsibility of helping another to learn is usually "turned on" by what he is doing. Bowermaster (1978) claims that the tutor derives a sense of importance and heightened self estimations, experiences a new awareness about learning and studying, and finds himself beginning to learn how to learn.

While cross-age tutoring is not new, few studies have determined the effects on handicapped children. Studies done have relied more heavily on anecdotal records than on empirical research. More research needs to be done in this area.

Statement of the Problem

The question to be researched is: Does participation in

a cross-age tutoring program improve self-concept and reduce the frequency of inappropriate classroom behavior among elementary school age emotionally disturbed children in a public school setting?

Significance of the Study

This study is significant in that it will contribute to the research in the field of special education by focusing on a possible technique for affective education that can be used with elementary school age children who are emotionally disturbed. Most reports of improved self-concept and reduced frequency of inappropriate classroom behavior due to peer or cross-age tutoring programs have been largely anecdotal. Therefore, there is a need for more empirical research studies in this area.

Hypotheses

The investigator tested the following hypotheses:

1. There is no significant difference at the 0.05 level of confidence between self-concept scores of the emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

2. There is no significant difference at the 0.05 level of confidence between the frequency of work organization behaviors of those emotionally disturbed children who participated in a cross-age tutoring

program as tutors and of those emotionally disturbed children who did not.

3. There is no significant difference at the 0.05 level of confidence between the frequency of creative initiative/involvement behaviors of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

4. There is no significant difference at the 0.05 level of confidence between the frequency of positive behaviors toward the teacher of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

5. There is no significant difference at the 0.05 level of confidence between the frequency of need for direction in work of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

6. There is no significant difference at the 0.05 level of confidence between the frequency of social withdrawal of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

7. There is no significant difference at the 0.05 level

of confidence between the frequency of failure anxiety of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

8. There is no significant difference at the 0.05 level of confidence between the frequency of impatience of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

9. There is no significant difference at the 0.05 level of confidence between the frequency of irrelevant thinking/talk of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

10. There is no significant difference at the 0.05 level of confidence between the frequency of blaming others of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

11. There is no significant difference at the 0.05 level of confidence between the frequency of negative/aggressive behaviors of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

12. There is no significant difference at the 0.05 level of confidence between the frequency of perseverance of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

13. There is no significant difference at the 0.05 level of confidence between the frequency of peer cooperation of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

14. There is no significant difference at the 0.05 level of confidence between the frequency of confusion of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

15. There is no significant difference at the 0.05 level of confidence between the frequency of inattention of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

Definition of Terms

The following definitions of terms are important to this study:

Cross-age tutoring: The process in which an older emo-

tionally disturbed child tutors a younger child with learning
disabilities..

Tutor: A second, third, fourth, or fifth grade emo-
tionally disturbed child who assists a younger child with
learning disabilities with reading instruction on a one-to-
one basis.

Tutee: A first, second, or third grade child who is
placed in a resource or self-contained learning disabilities
class who is tutored by an older emotionally disturbed child.

Self-concept: The way we perceive ourselves and our ac-
tions and our opinions regarding how others perceive us as
measured by the score on the Piers-Harris Children's Self-
Concept Scale.

Level of reading achievement: The child's level of
success in reading which is represented by his scores on the
reading subtest of the Woodcock Johnson Achievement Test.
The subtest includes comprehension, word attack skills, and
vocabulary.

Classroom behavior: The overt behavior a student dis-
plays which is related to classroom achievement in both nor-
mal and special classes. Behavior is judged by the teacher
and aide by observations of the student's performance in the
classroom and rated on the Devereux Elementary School Be-
havior Rating Scale (Spivack and Swift, 1982).

Inappropriate classroom behavior: The extent to which
the child's behavior is not conducive to classroom learning
as measured by a profile of 14 dimensions of overt problem

behaviors on the Devereux Elementary School Behavior Rating
Scale (Spivack and Swift, 1982).

Affective education: Education dealing with awareness
of feelings and self, appropriate behavior, and how to cope
with life's frustrations and problems. This type of educa-
tion is part of the curriculum in the Personal-Social Ad-
justment classes for the emotionally disturbed.

Limitations of the Study

The results and conclusions are limited to the popula-
tion of elementary school children having similar character-
istics as the sample utilized in this study. Sample size
was small due to the unavailability of subjects that the in-
vestigator had access to and that the investigator could
feasibly handle due to time limitations.

There was only one instructor, the investigator, who
taught the training sessions and monitored the tutoring
sessions; consequently, teacher influence as a threat to
external validity to this study was not controlled or can-
celled.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Advantages of children teaching children have been cited in numerous studies, both research based and anecdotal reports. The studies report that tutoring is beneficial for both tutee and tutor academically and emotionally. But what does research say specifically about the implementation and results of a tutoring program. This chapter will provide a review of literature that is pertinent to the implementation of peer and cross-age tutoring programs. The chapter begins with a review of variables that affect the outcome of tutoring programs. The chapter continues with a discussion on benefits for tutee and tutor. The chapter concludes with research that addresses the issue of utilizing children with handicapping conditions in tutoring programs.

Research Findings on Tutoring

Research studies seem to disagree on what makes a tutoring program successful. However, these studies do specify variables that affect the outcome of tutoring. Ehly (1977) suggests the following four guidelines for any tutoring program:

1. Define outcomes

2. Specify materials and procedures

3. Train tutors

4. Monitor tutor and tutee

Arguments against peer teaching usually center around the issue of competence. Schermerhorn (1976) argues that students' peers are not proficient in subject matters nor are they usually qualified to teach. Thus, in order for a peer tutoring program to be successful, the tutor must go through a training program (Bean, 1972; Conrad, 1975; Allen, 1976; and Melaragno, 1977). Sowell (1978) suggests that the tutor preparation process should include an explanation of the role of the tutor, the procedures to follow in tutoring, and how to start the peer tutoring session. Trained tutors scored significantly higher than untrained tutors on 1) engaging tutee in friendly conversation, 2) confirming the correct tutee response, 3) praising, 4) giving the correct answer when tutee is incorrect, and 5) eliciting the correct response before going on (Niedermeyer, 1970). Once training has been completed, the peer tutoring needs adult support through adult supervision and monitoring (Howell and Kaplan, 1978; Lundell and Brown, 1979; and Mavrogenes and Galen, 1979)

Another factor that research has shown to affect the outcome of peer tutoring are age differences in tutor and their tutee. It appears that a greater age difference between tutor and tutee results in somewhat better tutee performance (Allen, 1976).

Effects of sex and ethnic origin of tutee and tutor have also received attention in peer tutoring studies. Gartner (1971) reported specific facts about matching tutoring pairs by race and sex. Blacks performed better if the pairs were homogeneous as to race and sex. These factors do not seem to affect Puerto Ricans and Caucasians significantly. Mexican American males did not do well with female tutors. Research tends to be in disagreement with each other in terms of the effects of the sex factor alone. Krouse (1981) claims there is little support for superiority of either sex or opposite sex pairing. Sowell (1978) advises against placing students of the opposite sex in one-to-one tutoring situations and Foster (1972) reports that fifth grade tutors prefer tutoring younger children of the same sex. Shaw (1973) recommends at least two grade levels between tutor and tutee.

Length and frequency of tutoring sessions have also been a concern of researchers. A study done by Jenkins and Jenkins (1981) found that tutoring was more effective if scheduled daily and for sessions that last approximately half an hour. For primary children, Morrissey (1975) claims that 15-20 minutes is the optimal interim for tutoring.

Most research studies have used reading as the subject tutored (Duff and Swick, 1974; Diamond, 1976; East, 1976; Laycock and Schwartzberg, 1976; Armstrong, 1979; Wassermann and Stanbrook, 1981). Mavrogenes (1979) cited that reading seems to be the subject that lends itself best to cross-age tutoring after reviewing literature. Reading has not been

the only subject tutored in research studies. Any subject
can be used. Math was the subject used in three of the
studies reviewed (Smith, 1977; Bullard and McGee, 1983; and
Sharpley, 1983). Two research studies, Dineen, et al (1977)
and Mandoll (1982) showed the effects of peer tutoring on
spelling achievement. Maher (1982) used tutors for social
science and language arts and Dykeman (1979) even set up a
peer tutoring program to help handicapped students learn
music.

No matter what kind of peer or cross-age tutoring pro-
gram the researcher wants to set up, Lundell and Brown (1979)
offer some general guidelines:

1. Consistent monitoring of the entire tutoring process
   is essential. This can be done by a teacher or
   parent volunteer.

2. Criterion referenced pre and post assessment is
   vital. One must know strengths and weaknesses for
   effective teaching.

3. Tutor training is important.

4. Instructional materials should be of high interest
   and directly related.

Peer Tutoring Benefits for Tutees

Several studies focus on the benefits of peer tutoring
for tutees. Jenkins, Mayhall, Peschka, and Jenkins (1974)
compared small group and tutorial instruction in resource
room settings through a series of studies. Each of the five

children in the study was taught by both a resource teacher
and by a cross-age tutor. Results suggested that the chil-
dren learned more from the one-to-one instruction of the
tutoring than in a small group. The effects was observed for
word recognition, spelling, oral reading, and multiplication.
A five month cross-age tutoring program in reading was in-
stituted by Erickson (1971). Factors besides reading achieve-
ment under investigation were behavior, grades, interests and
attitudes, social acceptance, and attendance. Analyses of
results indicated that tutoring improved only the reading
achievement of tutors and tutees.

Bar Eli and Raviv (1982) conducted a study in which
underachieving fifth and sixth graders who were deficient
in math skills tutored second graders who were also weak in
math, replacing their regular classroom teachers. Results
showed that both tutors and tutees had significantly improved
in math on standard achievement tests. Another cross-age
tutoring program in mathematics was instituted by Sharpley
(1983). Seventy-six fifth and sixth graders tutored seventy-
six second and third graders 30 minutes per day for five
weeks. The tutors effectively increased tutees' performance.
Howell and Kaplan (1978) concluded from their investigation
that all tutees experienced positive changes in oral reading
as a result of tutoring and that peer tutors can be used to
increase the oral reading rates of tutees. Several other
studies (Gardner, 1978 and Moore, 1978) have found signifi-
cant gains in reading achievement for elementary level tutors

and tutees participating in cross-age tutoring programs.

Peer tutoring has also been used successfully to improve spelling performance. The effects of peer tutoring on the spelling of a mainstreamed elementary LD student were investigated by Mandoll (1982). Self reports and ratings on the treatment indicated that both peer tutor and tutee felt they had improved their spelling performance. In another study, the subjects' spelling improved after peer tutoring (Dineen, et al, 1977). An increase in achievement of tutees is limited to only tutored skills not overall achievement according to Zajana and Hubbard (1975).

Benefits of peer tutoring for tutees is not limited to improvements in the cognitive domain. Hayes (1978) reported a decrease in discipline referrals for fighting for tutees after participation in peer tutoring. Schools where peer tutoring programs are in effect have reported increased academic and social competence for the tutor and tutee according to Ehly and Larsen (1971). Duff and Swick (1974) reported that although their six week program did not show statistically significant results, the data trends reflected evidence of positive change in self perception of tutees. More systematic research is still needed to determine the full affective and academic effects of peer and cross-age tutoring on the tutee.

Peer Tutoring Benefits for Tutors

Effects of peer tutoring on the tutor has been the sub-

ject of few research studies. Most studies on this question
have been anecdotal. Several studies report academic achieve-
ment increases in both tutor and tutee (East, 1976; Smith,
1977; Hayes, 1978; Cohen, 1981; Mandoll, 1982; and Sharpley,
1983). Quintillan of Roman antiquity mentioned that tutors
showed an average gain of eight months academically as com-
pared to five months for similar students who did not tutor
(King, 1982). In a study to determine the cost effectiveness
of peer and cross-age tutoring, Armstrong (1979) discovered
that low achievers in reading made significant gains in their
own reading ability following their tutoring of young chil-
dren. The results of another study showed that the subjects'
spelling performance improved nearly an equivalent amount on
those words on which they tutored another child as on which
They were tutored (Dineen, et al, 1977). Tutors reinforced
their own knowledge when they prepare materials to teach the
tutee.

Two studies have emphasized factors that affect the
maximum extent of the academic benefits for tutors. Jenkins
and Jenkins (1981) suggest that tutors are more likely to
show academic improvements when they themselves are deficient
in the subject area tutored. The rationale for being selected
as a tutor may also affect the outcome. Bierman and Furman
(1981) gave tutors four rationales for being selected: a)
competence rationale, b) physical rationale, c) chance ra-
tionale, and d) no rationale. Tutors had more positive atti-
tudes when they had been given a competence or physical

characteristic rationale as compared to the tutors who were
provided with a chance or no rationale.

Cross-age tutoring can also benefit the tutor in affec-
tive areas. There seems to be a disagreement among re-
searchers on the effects of peer tutoring on the tutor's
self-concept. A review of literature done by Silvernail
(1981) reported findings of 16 studies of self-concept of
student tutors. In 12, self-concept was higher for tutors
than conventional students. In the remaining four studies,
self-concept was higher for conventional students. Con-
ditions of the 16 studies were not reported. Some studies
have found significant gains in self esteem for tutors
(Dreyer, 1973; East, 1976; Cassidy, 1977; Zeeman, 1982; and
Yoger and Ronen, 1982). Lazerson (1978) conducted a peer
tutoring study that involved 60 children who tutored for five
weeks. Almost all children who had actively participated in
the program showed higher gains than the control subjects in
higher self-concepts and greater behavioral improvements.
Studies at the University of Minnesota found that at an ele-
mentary level, tutors are positively impacted upon their
levels of psychological maturity when they take on the role
of the teacher. They develop a greater sense of empathy,
individuality, and personal competence.

Other studies have found no significant increase in self-
concept of tutors (Cohen, 1981 and Sharpley, 1983). Diamond's
(1976) cross-age tutoring program involving fifth graders
tutoring second graders in half hour sessions four times a

week for a period of ten weeks. There was no support for positive self esteems of the fifth graders and on reading achievement of the second graders. Diamond (1976) felt the lack of adequate structure may have accounted for the lack of significant results.

Research has suggested that cross-age tutoring can improve attitudes of the tutors toward learning and school life in general. In Cohen's (1981) review of literature on tutoring programs, he found tutors developed more positive attitudes toward tutored subjects following participation in a tutoring program. On a simple subjective measure of tutor attitudes and self-concept as reported by their teachers, Dreyer (1973) found considerable improvement on pre and post measures. In a study done by Fogarty and Wang (1982), tutors exhibited more positive attitudes toward teachers and school life following participation in tutoring.

Another effect of cross-age tutoring that has been the topic of research is behavioral effects. Hayes (1978) discovered that the tutors had a greater reduction in discipline referrals for fighting after participation in the program. Birch's (1978) anecdotal report cites that a disruptive sixth grade boy came close to being a "model" student while helping second and third grade children with reading and writing. Results of another study showed that within two months, tutors identified as having behavior problems decreased inappropriate behaviors such as lying, arguing, and belittling classmates (Bullard and McGee, 1983). Zeeman's

(1982) study reported that tutors showed a reduction of expressed inability. Cross-age tutoring has also significantly increased the tutors' empathy and altruism following participation in the program. (Yoger and Ronen, 1982).

Tutoring With Exceptional Students

There seems to be unanimous excitement among researchers who have instituted peer tutoring programs using exceptional children. Holder and Lister (1982) stated positive ramifications of peer tutoring in special education are additional one on one attention to students with special educational needs, shared social experiences, improved self esteem, decreased disruptive behavior, improved work habits, reduced stigma of special needs, and positive peer friendships.

Most research studies on peer tutoring have used the exceptional students as tutees. In a study done by Dykeman (1979) children went into classes for physically handicapped, mentally retarded, and emotionally disturbed to help with music skills. The major benefit of this study was the close quality interactions between nonhandicapped and handicapped children. McHale, Marcus, Olley, and Simeonsson (1981) described a program in which seven nonhandicapped students chose to tutor two autistic adolescents as an elective, one period a day five days a week. In addition to helping the autistic children, the tutors educated the rest of their peers and encouraged more positive attitudes toward the handicapped. The tutors brought mainstreaming to the classroom whereas

it was impossible for the autistic children to be mainstreamed into regular classrooms.

In another study, Campbell, Scaturro, and Lickson (1983) utilized nonhandicapped children to tutor autistic peers. The purpose of the study was to determine if peer tutors would be able to positively influence autistic children's preacademic behavior in the classroom. By the fifth week of the study, the behavior of the tutees changed from exhibiting tantrums, self injurious behavior, and active avoidance of the tutors to sitting at their work table and attending to task and tutor. In addition, they displayed a tolerance for physical contact with their tutors and did not require their teacher's presence during the tutoring. The investigators contend that this approach seems to be a viable procedure for integrating autistic and nonhandicapped children and for fostering adaptive behaviors in a particular group of severely handicapped children.

Few systematic research studies have been done with handicapped students as tutors (Osguthorpe, 1984). Researchers have been enthusiastic about the benefits of peer tutoring with the handicapped student as the tutor. Ehly and Larson (1971) claim that the prestige gained when a problem child teaches is frequently immeasurable. The child's self esteem is generally boosted. Wassermann and Stanbrook (1981) propose that inverse tutoring can do even more than help academically--it can restore the dignity of a student who has been emotionally crippled by a long history of

failure.

In Lazerson's (1978) study, forty withdrawn and aggres-
sive children tutored each other. After five weeks of the
program almost all the children who participated showed
higher self-concepts and greater behavioral improvements.
Lane (1972) initiated a tutoring project in a Brooklyn health
center. Eight disruptive adolescents with reported maladap-
tive behavior were reading tutors for younger students.
After seven months, the eight adolescents were rated by their
guidance counselors and teachers as having lessened their
disruptive behavior and achieved more confidence and a greater
sense of responsibility.

Other studies using tutors with behavior problems have
produced results of decreased problem behaviors (Birch, 1978
and Hayes, 1978). Tutors identified as having behavior pro-
blems decreased inappropriate behaviors such as lying,
arguing, and belittling classmates according to Bullard and
McGee (1983). Shaw (1973) cites cases in which teachers and
principals tell about low achieving disruptive youngsters who
became model students while tutoring and extremely shy chil-
dren have been known to blossom into self confident personal-
ities. The reason for the behavioral change is due to the
treatment of the tutors as mature individuals for the first
time as suggested by the researcher. Maher (1982) evaluated
the behavioral effects of using conduct problem adolescents
as cross-age tutors for elementary age retarded students.
When compared to students who had received peer tutoring or

group counseling, cross-age tutors improved significantly on social science and language arts grades and had significantly reduced rates of absenteeism and disciplinary referrals.

Children with behavioral problems have not been the only exceptional children selected as tutors. Smith (1977) initiated a tutoring project with 12 educable mentally handicapped students (seven to ten years old). The six older children functioned as tutors in reading. Individual reactions indicated that the program enhanced the self esteem of tutors. Trainable mentally retarded children have also been shown to make effective reading tutors (Laycock and Schwartzberg, 1976).

In light of the review of literature of peer tutoring with exceptional children, there is an apparent need for more systematic research in this area. All studies do suggest that peer tutoring is a viable strategy for use in special education classes.

Summary of the Review of Literature

The review of literature indicated that several factors affect the outcome of peer tutoring. Characteristics of the tutor and tutee as well as the quality of interaction have been found to influence the outcomes. Too few studies have been based on systematic research but rather consist largely of anecdotal reports. However, the results of few empirical studies report positive gains academically and socially for both tutor and tutee.

The research studies on peer tutoring with exceptional children also show results of positive benefits for these children. Tutoring has been shown to be effective with children with most handicapping conditions and when they are used as tutor or tutee. Behavioral improvements are striking when exceptional children serve as tutors.

In conclusion, research using emotionally disturbed children as tutors is far too limited with the majority of studies based on anecdotal information. More research is needed to determine the full range of effects of cross-age tutoring with emotionally disturbed children in regard to the areas of self-concept and inappropriate classroom behavior.

CHAPTER III

METHODOLOGY AND DESIGN

Introduction

This chapter deals with the research methodology that
was used in this study. Description of the subjects, the
research design and variables, the instruments used to col=
lect data, procedures followed, and how the data was analyzed
are presented.

Subjects

Ten second, third, fourth, and fifth grade emotionally
disturbed children were utilized as subjects. The subjects
were enrolled in two special education classes for the emo-
tionally disturbed in an elementary school in northeastern
Oklahoma.

The following criteria were met by all the subjects from
the two selected classes who participated in this study:

1. Current enrollment in a Personal-Social Adjustment
    class after having been identified by a psychologist
    as emotionally disturbed and in need of a special
    class setting.

2. Exhibiting potential for functioning at grade level
    or above in all academic areas. Only children with

average or above average intelligence were in-
cluded in this study.

Due to the differences between the daily schedules of
lunchtimes, recesses, and mainstreaming classes, tutoring
sessions were arranged into three specific time periods.

The subjects were stratified according to grade level
and randomly selected for the experimental and control groups.
The instructional reading level was utilized to match tutor
to tutee as well as grade level. The tutors were matched to
a tutee one grade level younger and reading two levels below
the tutor's reading level from a list of tutees who were
chosen by their teachers as in need of extra help. All sub-
jects and tutees were males.

Research Design and Variables

The research design that was utilized to test the stati-
stical hypotheses is the Equivalent Control Group Design.
There were two randomly formed groups of five subjects each,
an experimental and control group. Both groups were pre and
posttested on the Piers-Harris Children's Self-Concept Scale
and the Devereux Elementary School Behavior Rating Scale.

The independent variables in this investigation were the
separate treatments administered to the experimental and the
control group of tutors. Treatment for the groups consisted
of the following:

1.   Experimental group of tutors: second, third, fourth,
     and fifth grade students identified as emotionally

disturbed who participated as tutors in a six week
tutoring program.

2. Control group of tutors: second, third, fourth, and
    fifth grade students identified as emotionally dis-
    turbed who attended class as usual during the six
    week treatment period.

The dependent vatiables in this study were self-concept
score and the fourteen behavior factor scores fo the emotion-
ally disturbed students.

Instrumentation

The dependent variables were measured by the following
instruments:

1. The Piers-Harris Children's Self-Concept Scale (The
Way I Feel About Myself) (Piers, 1977) was utilized to mea-
sure self-concept of the tutors. The test consists of 80
first person declarative statements of the type "I am a happy
person." The child responds "yes" or "no". Half of the
statements are worded to indicate a positive self-concept and
slightly more than half to indicate a negative self-concept.
The grade level range is for grades 3-12 but may be used
below third grade if the items are read by the examiner.

Internal consistency of the scale ranges from .78 to .93
and retest reliability from .71 to .77. Correlation figures
with similar instruments are in the mid sixties and the
scale possesses teacher and peer validity coefficients of .40.

2. The Devereux Elementary School Behavior Rating Scale

II (DESB) (Spivack and Swift, 1982) was utilized to measure inappropriate classroom behavior. The DESB II is a sophisticated and carefully developed rating scale. The behaviors to be rated are clearly described and instructions for rating are carefully given. A child is rated on 52 different items in terms of the relative frequency with which the described behavior occurs. The scale can be reliably and validly used in grades one through six to rate classroom behavior that relates to success or failure. It provides a profile of 14 dimensions of overt behavior that experienced teachers have judged as being related to classroom achievement in both normal and special classes. The fourteen dimensions are as follow: work organization, creative initiative/involvement, positive toward teacher, need for direction in work, socially withdrawn, failure anxiety, impatience, blaming, negative/ aggressive, perseverance, peer cooperation, confusion, and inattention.

A score above one standard deviation is indicative of an abnormally high amount of a particular behavior. For all but five factors, a score above plus one standard deviation suggests an area of behavioral difficulty which is not conducive to successful academic functioning.

Normative DESB II data was obtained from 72 teachers in 13 elementary schools in a consolidated small city public school system. The backgrounds of the children were quite heterogeneous. Eighty-two percent of the children were white and eighteen percent were nonwhite.

The test-retest correlations of the factors are quite satisfactory with the median factor correlation being .81. The standard error of measurement for these factors is quite small suggesting that the score obtained on a child at any one point in time is reasonably accurate estimates of the "true" score for that child at the particular time.

Procedure

Summarized below is the sequence of activities the researcher followed in developing and implementing a cross-age tutoring program using emotionally disturbed children as tutors in a public school setting:

1. Presented the program and obtained approval and support from the superintendent, principal, and learning disabilities teachers.

2. Notified parents to obtain parental permission for students to participate in the program.

3. Randomly assigned ten subjects to experimental and control groups of tutors stratifying the subjects according to grade level and assigning proportionately to each group.

4. Established a tutoring schedule. Thirty minute training sessions were provided once a week for the first four weeks.

Three 30 minute tutoring sessions were scheduled each week during the six week treatment period. Tutors were scheduled for 35 minutes of classtime to allow for preparation and traveling to and from classrooms.

5. Pretested tutors two days prior to the start of the treatment period. The teachers and teachers' aides rated each subject on the DESB II. The Piers-Harris was read to each subject in two sessions by the researcher. Five subjects had the odd questions read to them the first session then the even questions and vice versa for the remaining five subjects.

6. Implemented training sessions and tutoring sessions for the six week treatment period. The training sessions were conducted by the researcher in her classroom. Tutors went to their tutees' classrooms for the tutoring sessions where they could be constantly monitored if necessary.

The tutees were first, second, and third grade students with learning disabilities either in a resource or self-contained LD classroom. Each tutor was matched with a tutee one grade level younger with an instructional reading level two grade levels below the tutor's instructional reading level.

During the first four weeks of the program, tutors were observed by the researcher each session for appropriate tutor behavior, tutor strengths, and areas in which further training is needed. Tutors were observed once a week during the last two weeks of the treatment period.

7. Posttested tutors the week following the sixth week of the program. The teachers and teachers's aides rated each subject on the DESB II. The Piers-Harris was read to each subject by the researcher in two sessions, one a day. The questions were counterbalanced so the order of odd-even ques-

tions were reversed from the pretest order for each subject.

Data Analysis

Subjects were pre and posttested on the DESB II and the Piers-Harris. A Pearson correlation test was used to analyze the relationship between the teachers' ratings and the teachers' aides' ratings on both pretest and posttest ratings on the DESB II.

The hypotheses were tested by subjecting the data to a repeated measures analysis of variance. The repeated measures analysis of variance was used to analyze the data for significant differences between the self-concept scores and the frequency of inappropriate classroom behaviors of the experimental and control group.

CHAPTER IV

RESULTS OF THE STATISTICAL ANALYSIS

The primary concern of this study was to determine if
significant differences existed in self-concept and frequency
of inappropriate classroom behaviors of the experimental
group compared to the control group as a result of a six week
cross-age tutoring program. The chapter has been divided
into two sections to facilitate discussion. The first sec-
tion presents a comparison of the results of the pretests and
posttests of the experimental and control group of tutors.
The second section includes a report of the results of this
research as they relate to the stated hypotheses. The format
for this section includes statement of each hypothesis,
presentation of the analysis of the related data, and the
presentation of the data in tabular form.

Results of Pretests and Posttests

Summarized in Tables I and II are the results of the
pretest and posttest scores of the 10 students who partici-
pated in the study. Although both teachers and aides rated
the 10 students on the DESB. only the teachers' ratings will
be used. The results of a correlation analysis between
teacher and aide pretest rating scores showed a Pearson cor-

TABLE I

MEANS AND STANDARD DEVIATIONS OF PRETEST AND
POSTTEST SCORES FOR EXPERIMENTAL GROUP

Variable	Pretest		Posttest	
	Mean	SD	Mean	SD
Piers-Harris	56.20	13.05	57.80	13.97
DESB Work Organization	16.60	5.86	20.00	4.69
DESB Creative Initiative/ Involvement	15.20	2.86	16.00	2.55
DESB Positive Toward Teacher	17.20	2.77	19.80	2.77
DESB Need for Direction in Work	8.60	3.91	6.40	1.52
DESB Socially Withdrawn	8.80	4.44	8.60	3.21
DESB Failure Anxiety	14.20	3.56	10.20	4.02
DESB Impatience	14.20	5.45	11.20	3.96
DESB Irrelevamt Thinking/ Talk	9.60	2.51	8.40	1.95
DESB Blaming	13.80	3.56	9.40	3.21
DESB Negative/Aggressive	8.60	3.58	7.40	2.88
DESB Perseverance	6.20	1.48	8.00	1.73
DESB Peer Cooperation	6.80	1.64	10.00	1.87
DESB Confusion	7.80	3.56	6.40	2.19
DESB Inattention	11.20	4.66	9.80	1.79

TABLE I

MEANS AND STANDARD DEVIATIONS OF PRETEST AND
POSTTEST SCORES FOR CONTROL GROUP

Variable	Pretest Mean	SD	Posttest Mean	SD
Piers-Harris	55.40	8.96	55.20	15.53
DESB Work Organization	13.00	4.58	15.40	6.84
DESB Creative Initiative/ Involvement	15.20	3.55	15.60	4.16
DESB Positive Toward Teacher	19.40	2.88	20.20	2.49
DESB Need for Direction in Work	10.40	3.21	9.60	4.16
DESB Socially Withdrawn	9.40	3.91	8.60	3.64
DESB Failure Anxiety	14.20	6.06	12.80	6.46
DESB Impatience	13.80	4.55	12.20	4.32
DESB Irrelevant Thinking/ Talk	10.60	3.21	10.40	1.34
DESB Blaming	9.40	5.13	9.40	4.62
DESB Negative/Aggressive	9.00	4.42	7.20	3.49
DESB Perseverance	6.80	2.05	7.60	2.61
DESB Peer Cooperation	8.00	2.24	9.20	1.92
DESB Confusion	10.60	3.51	8.00	2.55
DESB Inattention	13.80	4.15	12.60	5.77

relation of .91 and between teacher and aide posttest ratings .96 which are both significant at the 0.05 level of confidence. Since the correlations are high, the teacher ratings were used to provide for greater face validity.

<div align="center">Testing the Hypotheses</div>

The data obtained from this investigation were used for the primary purpose of testing the null hypotheses presented in Chapter I of this study. Repeated measures analysis of variance was used to test for significant differences between the pretest and posttest means of the experimental and control groups. The F ratio for treatment by time is of primary importance as it signifies differences between the two groups which are due to treatment, the cross-age tutoring program.

The presentation and analysis of data for this research is reported as related to each of the hypotheses. Wherever statistical tests were employed to test the hypotheses, it was assumed that differences were not statistically significant unless they were at or above the 0.05 level of confidence.

Hypothesis one:

There is no significant difference at the 0.05 level of confidence between self-concept scores of the emotionally disturbed students who participated in a cross-age tutoring program as tutors and those emotionally disturbed students who did not.

Presented in Table III are the results of the repeated

measures analysis of variance. The results indicated that
there is no significant overall difference (F = .18, df = 1/8,
p > .05) in self-concept scores between the two groups. There-
fore null hypothesis one is not rejected.

TABLE III

REPEATED MEASURES ANALYSIS OF VARIANCE
SUMMARY TABLE FOR PIERS-HARRIS

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	14.45	1	14.45	.05	.84
Within Treatment	2568.60	8	321.08		
Time(Pre-Post)	2.45	1	2.45	.11	.75
Treatment by Time	4.05	1	4.05	.18	.68
Within Time	179.00	8	22.38		

Experimental Group N = 5
Control Group N = 5
*p < .05.

Hypothesis two:

There is no significant difference at the 0.05 level of
confidence between the frequency of work organization
behaviors of those emotionally disturbed children who
participated in a cross-age tutoring program as tutors
and of those emotionally disturbed children who did not.

The results of the repeated measures analysis of variance are presented in Table VI. The results indicated that there is no significant difference (F = .11, df = 1/8, p > .05) in the frequency of work organization behaviors between the two groups. Therefore, null hypothesis two is not rejected.

TABLE VI

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB WORK ORGANIZATION SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	84.05	1	84.05	1.65	.24
Within Treatment	407. 20	8	50.90		
Time(Pre-Post)	42.05	1	42.05	3.77	.09
Treatment by Time	1.25	1	1.25	.11	.75
Within Time	89.20	8	11.15		

Experimental Group N = 5
Control Group N = 5
*p < .05.

Hypothesis three:

There is no significant difference at the 0.05 level of confidence between the frequency of creative initiative/ involvement behaviors of those emotionally disturbed children who participated in a cross-age tutoring pro-

gram as tutors and of those emotionally disturbed chil-
dren who did not.

Presented in Table V are the results of the repeated
measures analysis of variance. The results indicated that
there is no significant difference (F = .06, df = 1/8, p > .05)
in the frequency of creative initiative/involvement behaviors
between the two groups. Therefore, null hypothesis three is
not rejected.

TABLE V

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY TABLE
FOR DESB CREATIVE INITIATIVE/INVOLVEMENT SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	.20	1	.20	.01	.92
Within Treatment	146.80	8	18.35		
Time(Pre-Post)	1.80	1	1.80	.55	.48
Treatment by Time	.20	1	.20	.06	.81
Within Time	26.00	8	3.25		

Experimental Group N = 5
Control Group N = 5
*p < .05.

Hypothesis four:

There is no significant difference at the 0.05 level of

confidence between the frequency of positive behaviors toward the teacher of those emotinally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

The results of the repeated measures analysis of variance are presented in Table VI. The results indicated that there is no significant difference (F = 2.95, df = 1/8, $p > .05$) in the frequency of positive behaviors toward the teacher between the two groups. Therefore, null hypothesis four is not rejected.

TABLE VI

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY TABLE
FOR DESB POSITIVE TOWARD TEACHER SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	8.45	1	8.45	.62	.45
Within Treatment	108.60	8	13.57		
Time(Pre-Post)	14.45	1	14.45	10.51*	.01
Treatment by Time	4.05	1	4.05	2.95	.12
Within Time	11.00	8	1.38		

Experimental Group N = 5
Control Group N = 5
*$p < .05$.

Hypothesis five:

There is no significant difference at the 0.05 level of confidence between the frequency of need for direction in work of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

Presented in Table VII are the results of the repeated measures analysis of variance. The results indicated that there is no significant difference (F = .39, df = 1/8, $\underline{p}$ > .05) in the frequency of need for direction in work between the two groups. Therefore, null hypothesis five is not rejected.

TABLE VII

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY TABLE
FOR DESB NEED FOR DIRECTION IN WORK SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	31.25	1	31.25	1.91	.20
Within Treatment	131.00	8	16.38		
Time(Pre-Post)	11.25	1	11.25	1.81	.22
Treatment by Time	2.45	1	2.45	.39	.55
Within Time	49.80	8	6.23		

Experimental Group N = 5
Control Group N = 5
*p < .05.

Hypothesis six:

There is no significant difference at the 0.05 level of confidence between the frequency of social withdrawal of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

The results of the repeated measures analysis of variance are presented in Table VIII. The results indicated that there is no significant difference (F= .11, df = 1/8, p > .05) in the frequency of social withdrawal between the two groups. Therefore, null hypothesis six is not rejected.

TABLE VIII

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB SOCIALLY WITHDRAWN SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	.45	1	.45	.02	.90
Within Treatment	200.60	8	25.08		
Time(Pre-Post)	1.25	1	1.25	.30	.60
Treatment by Time	.45	1	.45	.11	.75
Within Time	33.80	8	4.23		

Experimental Group N = 5
Control Group N = 5
*p < .05.

Hypothesis seven:

There is no significant difference at the 0.05 level of confidence between the frequency of failure anxiety of those emotionally disturbed children who participated in a cross-age tutoring program and of those emotionally disturbed children who did not.

Presented in Table IX are the results of the repeated measures analysis of variance. The results indicated that there is no significant difference (F = 3.63, df = 1/8, $p > .05$) in the frequency of failure anxiety between the two groups. Therefore, null hypothesis seven is not rejected.

TABLE IX

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB FAILURE ANXIETY SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	8.45	1	8.45	.16	.70
Within Treatment	410.60	8	51.33		
Time(Pre-Post)	36.45	1	36.45	15.68*	.00
Treatment by Time	8.45	1	8.45	3.63	.09
Within Time	18.60	8	2.33		

Experimental Group N = 5
Control Group N = 5
*$p < .05$.

Hypothesis eight:

There is no significant difference at the 0.05 level of confidence between the frequency of impatience of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

The results of the repeated measures analysis of variance are presented in Table X. The results indicated that there is no significant difference (F = .51, df = 1/8, $p > .05$) in the frequency of impatience between the two groups. Therefore, null hypothesis eight is not rejected.

TABLE X

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB IMPATIENCE SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	.45	1	.45	.01	.92
Within Treatment	300.60	8	37.58		
Time(Pre-Post)	26.45	1	26.45	5.48*	.05
Treatment by Time	2.45	1	2.45	.51	.50
Within Time	38.60	8	4.83		

Experimental Group N = 5
Control Group N = 5
*$p < .05$.

Hypothesis nine:

There is no significant difference at the 0.05 level of confidence between the frequency of irrelevant thinking/talk of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

Presented in Table XI are the results of the repeated measures analysis of variance. The results indicated that there is no significant difference ($F = .22$, df = 1/8, $\underline{p} > .05$) in the frequency of irrelevant thinking/talk between the two groups. Therefore, null hypothesis nine is not rejected.

TABLE XI

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY TABLE
FOR DESB IRRELEVANT THINKING/TALK SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	11.25	1	11.25	2.05	.19
Within Treatment	44.00	8	5.50		
Time(Pre-Post)	2.45	1	2.45	.44	.53
Treatment by Time	1.25	1	1.25	.22	.65
Within Time	44.80	8	5.60		

Experimental Group N = 5
Control Group N = 5
*p < .05.

Hypothesis ten:

There is no significant difference at the 0.05 level of confidence between the frequency of blaming others of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

The results of the repeated measures analysis of variance are presented in Table XII. The results indicated that there is a significant difference (F = 6.33, df = 1/8, $p < .05$) in the frequency of blaming others between the two groups. The results support the rejection of null hypothesis ten.

TABLE XII

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB BLAMING SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	24.20	1	24.20	.77	.42
Within Treatment	251.80	8	31.48		
Time(Pre-Post)	24.20	1	24.20	6.33*	.04
Treatment by Time	24.20	1	24.20	6.33*	.04
Within Time	30.60	8	3.83		

Experimental Group N = 5
Control Group N = 5
*$p < .05$.

An HSD test was performed and indicated that the pretest and posttest means for the experimental group were significantly different and the experimental group's pretest mean was significantly different from the control group's pretest mean. The results also indicated that there was no significant difference between the control group's pretest and posttest means or between the posttest means of the experimental and control group. A comparison of the means (Table I and II) shows that the experimental group reduced the frequency of blaming others and circumstances when things do not go well from pretest to posttest whereas there was no significant change between the pretest and posttest frequency of blaming behaviors of the control group. This relationship is illustrated graphically in Figure 1.
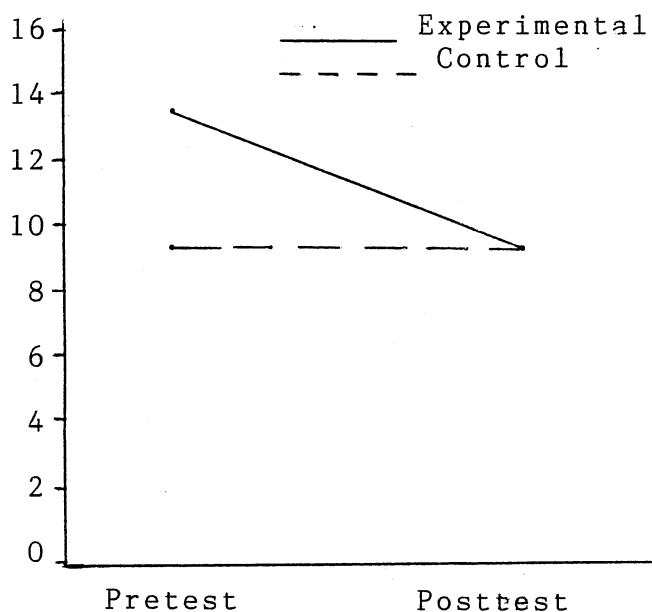
Figure 1. Comparison of Pretest and Posttest Means of DESB Blaming Subtest

Hypothesis eleven:

There is no significant difference at the 0.05 level of confidence between the frequency of negative/aggressive behaviors of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

Presented in Table XIII are the results of the repeated measures analysis of variance. The results indicated that there is no significant difference ($F = .38$, df = $1/8$, $p > .05$) in the frequency of negative/aggressive behaviors between the two groups. Therefore, null hypothesis eleven is not rejected.

TABLE XIII

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB NEGATIVE/AGGRESSIVE SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	.05	1	.05	.00	.97
Within Treatment	201.40	8	25.28		
Time(Pre-Post)	11.25	1	11.25	9.18*	.02
Treatment by Time	.45	1	.45	.38	.56
Within Time	9.80	8	1.23		

Experimental Group N = 5
Control Group N = 5
*$p < .05$.

Hypothesis twelve:

There is no significant difference at the 0.05 level of confidence between the frequency of perseverance of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

The results of the repeated measures analysis of variance are presented in Table XIV. The results indicated that there is no significant difference (F = .53, df = 1/8, $\underline{p}$ > .05) in the frequency of perseverance between the two groups. Therefore, null hypothesis twelve is not rejected.

TABLE XIV

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB PERSEVERANCE SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	.05	1	.05	.00	.93
Within Treatment	46.00	8	5.75		
Time(Pre-Post)	8.45	1	8.45	3.60	.10
Treatment by Time	1.25	1	1.25	.53	.49
Within Time	18.80	8	2.35		

Experimental Group N = 5
Control Group N = 5
*p < .05.

Hypothesis thirteen:

There is no significant difference at the 0.05 level of confidence between the frequency of peer cooperation of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

Presented in Table XV are the results of the repeated measures analysis of variance. The results indicated that there is no significant difference (F = 4.55, df = 1/8, $p > .05$) in the frequency of peer cooperation between the two groups. Therefore, null hypothesis thirteen is not rejected.

TABLE XV

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB PEER COOPERATION SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	.20	1	.20	.03	.86
Within Treatment	50.80	8	6.35		
Time(Pre-Post)	24.20	1	24.20	22.00*	.00
Treatment by Time	5.00	1	5.00	4.55	.07
Within Time	8.80	8	1.10		

Experimental Group N = 5
Control Group N = 5
*$p < .05$.

Hypothesis fourteen:

There is no significant difference at the 0.05 level of confidence between the frequency of confusion of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

The results of the repeated measures analysis of variance are presented in Table XVI. The results indicated that there is no significant difference (F = .53, df = 1/8, $p > .05$) in the frequency of confusion between the two groups. Therefore, null hypothesis fourteen is not rejected.

TABLE XVI

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB CONFUSION SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	24.20	1	24.20	1.64	.24
Within Treatment	118.00	8	14.75		
Time(Pre-Post)	20.00	1	20.00	5.88*	.04
Treatment by Time	1.80	1	1.80	.53	.49
Within Time	27.20	8	3.40		

Experimental Group N = 5
Control Group N = 5
*p < .05.

Hypothesis fifteen:

There is no significant difference at the 0.05 level of confidence between the frequency of inattention of those emotionally disturbed children who participated in a cross-age tutoring program as tutors and of those emotionally disturbed children who did not.

Presented in Table XVII are the results of the repeated measures analysis of variance. The results indicated that there is no significant difference (F = .00, df = 1/8, $p > .05$) in the frequency of inattention between the two groups. Therefore, null hypothesis fifteen is not rejected.

TABLE XVII

REPEATED MEASURES ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DESB INATTENTION SUBTEST

Source	Sum of Squares	df	Mean Squares	F	Significance of F
Treatment	36.45	1	36.45	1.14	.32
Within Treatment	255.60	8	31.95		
Time(Pre-Post)	8.45	1	8.45	1.47	.26
Treatment by Time	.05	1	.05	.00	.93
Within Time	46.00	8	5.75		

Experimental Group N = 5
Control Group N = 5
*$p < .05$.

Summary

Repeated measures analysis of variance was utilized to test the 15 hypotheses regarding the effectiveness of a six week cross-age tutoring program. The results supported the rejection of only the hypothesis pertaining to the frequency of blaming behaviors. The experimental group reduced the frequency of blaming other people or circumstances when things do not go well between pre and posttest whereas there was no significant change in the control group's frequency of blaming behaviors between pre and posttest. The results supported the nonrejection of the other 14 hypotheses including self-concept and the 13 remaining factors of the DESB.

CHAPTER V

DISCUSSION AND CONCLUSIONS, SUMMARY, AND

RECOMMENDATIONS

This study was based on the premise that a cross-age tu-

toring program can be used effectively as an alternative

affective education technique with emotionally disturbed

children in a public school setting. There are a few con-

clusions and speculations which can be made on the basis of

the findings of this investigation.

In this study, it was evident that cross-age tutoring can

influence a positive behavioral change for emotionally dis-

turbed students. This conclusion is based on the knowledge

that the experimental group significantly reduced the frequency

of blaming behaviors after participation in a six week tutoring

program whereas the control group showed no significant change

at the end of the six week period. However, the results of

this study suggest that the treatment reduces the frequency

of blaming others only if the group has a high frequency of

blaming at the onset of the program. The experimental group's

behavior was comparable to the control group's in the areas

of: self-concept , work organization, creative initiative/

involvement, positive attitude toward teacher, need for di-

rection in work, social withdrawal, failure anxiety, impa-

tience, irrelevant thinking/talk, negative/aggressive behavior, perseverance, peer cooperation, confusion, and inattention.

The results of this study lend support to the assumption that students who participate in a tutoring program tend to have more positive reactions to school than those who do not. Various researchers (Gartner, et al., 1971; Lane, 1972; Dreyer, 1973; Cohen, 1981) have reported similar results. According to Kazdin (1977), positive child ratings are important social validation measures. Wolf (1978) stated that the practical results of an applied program should not be measured only by the objective data obtained, but also in terms of social validity. Social validity refers to three aspects: the social significance of the goals (i.e., whether society values what is being done), the social appropriateness of the program (i.e., whether the participants consider the treatment procedures acceptable), and the social importance of the effects (i.e., whether the consumers are satisfied with the results).

During the program, two of the tutors expressed that they "loved tutoring". At the end of the program, one of the tutors asked if he could continue to tutor until school was out. Similar comments were made by two other tutors. One student who had tutored expressed a desire to tutor again several months after the termination of the program.

The results of this study also lend support to the assumption that participation as tutors can increase a child's sense of importance and responsibility. One tutor came to school

wearing nice slacks and a tie on the days he tutored. Once when his tutee was absent, he commented "I guess I dressed up for nothing today". Another tutor went beyond his tutoring duty to make an alphabet to help his tutee to improve his handwriting. The researcher must agree with the contention of Nevi (1983) that by becoming the teacher, the tutor assumes a teacher's characteristics. The role playing produces change in behavior, attitudes, and self perceptions consistent with expectations associated with that role.

Although this study employed a structured tutorial system that may be applicable to a classroom for the emotionally disturbed, the investigation did not examine all of the practical apllications of the system. The researcher feels that the tutoring did not produce more significant results because of the following four factors: 1) different ages of the tutors, 2) small sample size, 3) length of the tutoring program was too short, and 4) study was conducted at the end of the school year. Yet, as educational practices become more student centered and individualized instruction plays an increasingly important role in the teaching process, this study does provide positive support for using student tutors who are emotionally disturbed to benefit tutor and tutee.

In conclusion, if properly controlled and supervised, cross-age tutoring can provide an effective alternative strategy for affective education of the emotionally disturbed. It provides an opportunity for positive interactions with peers and allows a child to assume a role of giving and respon-

sibility. While cross-age tutoring may not work with every emotionally disturbed child, it is an exciting and interesting alternative strategy for behavior management.

Summary

This study was designed to determine whether self-concept or classroom behavior could be influenced appreciably by a six week cross-age tutoring program in reading. Cross-age tutoring is the process in which an older emotioanlly disturbed child tutors a younger child with learning disabilities.

Ten emotionally disturbed students were included in the investigation. The ten second, third, fourth, and fifth grade students who served in the experimental and control groups of tutors were enrolled in an elementary school.

The experimental group of tutors participated in the six week cross-age tutoring program while the control group of tutors attended class as usual. The tutoring treatment for tutors consisted of one 30 minute training session for the first four weeks and three 30 minute tutoring sessions for the entire six weeks. The tutees consisted of five first, second, third, and fourth grade students from either a resource or a self-contained learning disabilities class.

The design of this study was pretest-treatment-posttest. Each group was administered the pretest-posttest instruments: The Piers-Harris Children's Self-Concept Scale and the Devereux Elementary School Behavior Rating Scale.

Repeated measures analysis of variance was utilized to

analyze the data derived from the pretests and posttests.
Pearson correlation coefficients were obtained to determine
the relationship between teachers' and teacher's aides'
ratings on the DESB. Ahigh correlation was found thus only
the teachers' ratings were used to provide greater face vali-
dity. Only one of the 15 hypotheses tested were rejected at
the 0.05 level of confidence. The results indicated that
due to the cross-age tutoring program, tutors reduced the
frequency of blaming behaviors whereas the control group main-
tained the same frequency of blaming behaviors. The cross-age
tutoring program was found to have no significant effect on
the other 13 behavior factors of the DESB and self-concept.

<div align="center">Recommendations</div>

In any research endeavor, a number of variables are
identified which could relate to the study but have not been
included in the design. On the basis of the results of this
study, the investigator makes the following suggestions for
further research.

1. Studies should be conducted to determine the specific
variables which may affect the outcomes of a cross-age tu-
toring program. Variables to be manipulated might include:
differing amounts of time spent tutoring per session, per
week, and over extended periods of time; specific materials;
amount of tutor training; sex of tutors and tutees; and
grade level differences between tutor and tutee.

2. Studies should be conducted using children with

other handicapping conditions participating in a cross-age
tutoring program in both roles of tutor and tutee.

3. Cross-age tutoring programs should be developed to
teach other subjects such as mathematics, social studies,
science, and language arts.

4. A study should be made comparing the achievement of
elementary, middle school, and high school emotionally dis-
turbed students as tutors to determine at what level the
greater gains are made in academic achievement and/or affec-
tive benefits.

5. Research should focus on direct observation and
manipulation of different dimensions of tutoring behaviors
in order to analyze their role in the tutoring process.

6. The academic effects of using emotionally disturbed
students as tutors should be conducted to determine the full
range of benefits.

7. Research should be done comparing participation in
tutoring and participation in a helping relationship such as
watching younger children on the playground to determine which
produces greater gains.

8. Studies should be made using other methods of in-
struction for emotionally disturbed children.

Considering the results of this study, it becomes ex-
tremely important to try different techniques for improving
self-concept and reducing inappropriate classroom behaviors.

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APPENDIX

A CROSS-AGE TUTORING PROGRAM

The program in this study was developed to prepare tu-
tors to effectively participate in tutoring sessions. The
procedures and forms were adapted from a handbook by Melaragno
(1976), Tutoring with Students--A Handbook for Establishing
Tutorial Programs in Schools, and a text by Klausmeir, Jeter,
and Nelson (1972), Tutoring Can Be Fun. The sequence of pro-
cedudes included in this cross-age tutoring program is:

1. Tutoring Materials

2. Tutoring Sessions

    a. Plan for the First Tutoring Session

    b. Sequence for Tutoring Sessions

3. Tutor Training Sessions

    a. First Week

    b. Second Week through the Fourth Week

    c. Additional Training Procedures for Successful
       Tutoring

4. Forms

    a. Interview Activity Sheet

    b. Tutoring Procedures

    c. Word List

    d. Tutor's Daily Log

Tutoring Materials

Materials required for tutoring included standard school supplies (reading texts, blank flashcards, pencils, and paper), and tutors' record-keeping forms and information sheets.

For the tutor:

> Manila Folder--Each tutor is provided with a folder in\ which to place items need for tutoring.

> Outline of Tutoring Procedures--An outline of the sequence of steps to follow during tutoring sessions as a reminder to tutors.

> Flashcards--Flashcards are made for words missed and recorded on the Word List. These are kept in pockets fastened to the folder.

> Daily Log--Used for recording activities, evaluations, of tutoring sessions, and items to be discussed with instructor.

Tutoring Sessions

Plan for the First Tutoring Session

The objective of the first meeting is to provide an opportunity for the tutor and tutee to interact with one another. The students may interview each other during this session. The interview activity sheet is provided for this purpose. The questions should assist the tutor in gaining information that will be helpful in tutoring. The first session should end with an enrichment activity. The tutor may read a story to the tu-

tee, play an easy game, or do a practice exercise.

Sequence for Tutoring Sessions

The tutor works with his tutee by listening to him read, helping him attack new words, helping him study sight vocabulary words, asking him questions about what has been read, and participating with him in an enrichment activity.

The tutor follows this sequence of activities after the first tutoring session:

Word Study

↓

Reading

↓

Questioning--Discussing

↓

Game or Story or Practice Exercise

↓

Record-Keeping
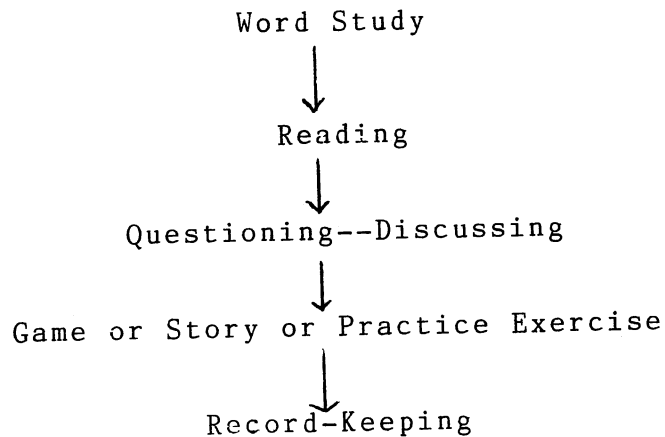
Word Study: Before reading the tutor and tutee study the flashcards made during the previous session. The tutor shows the flashcards to the tutee, one at a time, and asks him to read each one. After questioning--discussing, the tutor and tutee make out flashcards for words missed during reading that day from the Word List and spells them to the tutor who makes the flashcards. Then the two students review the flashcards following the same procedures described above.

Reading: Before the tutee begins reading from the text, he turns to the appropriate page and reviews what had been read previously. He and the tutor discuss the content of the

pages read (who are the characters, what has happened, etc...)
and anticipate the coming pages (Tutor: What do you think
will happen next?). Then the tutee reads while the tutor
listens carefully.

1. The tutee holds the book and turns the pages himself.

2. The tutor helps with any words that give the tutee
   difficulty. He has the tutee sound out the words,
   following a word attack procedure preferred by the
   teacher. Then the tutor has the tutee spell the
   word while the tutor writes it on the Word List.
   Finally, the tutor has the tutee reread the sentence
   in which the missed word occurred.

3. When five new words have been added to the Word List
   (or about 15 minutes remain in the tutoring period)
   the tutor and the tutee stop reading for the day.

Questioning--Discussing: When actual reading period has
ended, the tutor asks the tutee questions about the content
of the material read that day. The two students discuss the
content, relating it to other material read and events in
their own lives.

Game, Story, or Practice Exercise: Playing a new game,
listening to a story, or doing a practice exercise may make
learning to read more fun for the tutee. The game or story
should be selected by the tutor with the assistance of the
instructor.

Record-Keeping: In the final minutes of the session the
tutor fills out the Daily Log. He records pages read that

day, evaluates the session, and comments on the tutee's pro-
gress and needs.

Tutor Training Sessions

During the first week of the tutoring program, the tu-
tors attended a training session for one day and met with
their tutees on two days. Throughout the remaining three
weeks, training sessions were scheduled for one day and tu-
toring sessions were held three days a week. After the fourth
week, the tutors were only scheduled for three tutoring
sessions.

First Week

Session One: The objectives of the first training ses-
sion was to introduce tutors to the tutoring program and
schedule and to prepare the students for their initial tu-
toring session and subsequent tutoring sessions. (See the
Plan for the First Tutoring Session, Interview Activity Sheet,
and Format for Tutoring Sessions.) The following list of sug-
gestions for effective tutoring should be discussed.

Be on time for the tutoring session.

Be prepared with the materials you will use.

Sit by the tutee, rather than in front of him.

Greet the tutee pleasantly to start the sessions and
talk with him about something he is interested in.

Discuss what will be studied or practiced that day.

Look at the tutee when either of you speaks.

Wait for the tutee to answer each question you ask or to

complete each exercise given.

Speak slowly and clearly.

For each correct answer, tell the tutee his answer is

correct.

Praise the tutee for trying.

Correct the tutee's wrong or incomplete answers.

Set a good example for the tutee by paying attention to

the work and showing him that you like reading.

Be helpful and pleasant throughout the session especially

when the tutee does not seem to be making any progress

in his reading.

Near the end of the session, praise the tutee for having

worked hard and learned.

Remind the tutee when and where you will meet him for the

next session.

Tutors will roleplay their first session in order to be

familar with the Interview Activity Sheet. Steps in the role

playing are outlined below.

Role Playing

1. Describe the situtation in general.

2. Choose the actors.

3. Assign tasks to the audience as observers.

4. Set up the scene and brief the actors, describing

what each should do.

5. Start the action when all are ready.

6. Cut the interaction after the point has been illu-
   strated.

7. Thank the actors, using their real names.

8. Discuss what was observed.

   a. Determine what happened.

   b. Ask the actors how they felt in the role.

   c. Focus on what could have been done differently.

Second through Fourth Week

This session is held once a week and is an essential ingredient in effectively preparing tutors for their tutoring sessions.

The instructor meets with the tutors to:

1. Help the tutors understand the reading difficulties of the tutees.

2. Prepare materials to be used,and review format and procedures for tutoring sessions.

3. Air the tutors' concerns and problems.

4. Discuss/brainstorm/roleplay solutions to the problems.

5. Give positive feedback, support, and encouragement.

6. Give additional training in methods for successful tutoring.

7. Provide opportunities in reading skills practice for the tutors as needed.

Steps in brainstorming are outline below:

Brainstorming

1. Identify the topic for brainstorming. Write it at
    the top of the chalkboard or chart paper.

2. Ask for ideas.

3. Write the ideas on the chalkboard or chart paper.

    a. Take each contribution one at a time.

    b. Repeat the essence using the contributor's words.

    c. Check to see that you have understood what he
        meant.

    d. Write using his words. Abbreviate, but check to
        see if meaning is conveyed.

4. List all ideas, without discussion or evaluation.

After brainstorming, the ideas may be organized, best
ideas discussed, acted out, or permanently recorded.

Additional Training Procedures for
Successful Tutoring

Establishing a Friendly Atmosphere. The tutor will first
need to establish a friendly relationship with the tutee. The
tutor should be reminded to:

1. Call the tutee by name.

2. Smile.

3. Act friendly.

4. Sit next to the tutee.

Supporting the Tutee During Tutoring. At every step of
the tutoring process the key to success lies in the kind of

reinforcement the tutor gives the tutee. Continuous attention by the tutor while he is with the tutee is vital. These procedures should be stressed:

1. Praise correct responses regularly.

2. Mark correct responses, if appropriate.

3. Help with errors in a positive manner.

    a. Emphasize the question, not the wrong answer.

    b. Ask the question again.

    c. Help find the answer.

Encouraging Independence in the Tutee. As a successful working relationship is established, the tutor should become aware of ways to encourage independence in the tutee. These procedures should be introduced at the beginning of tutoring and stressed increasingly as tutoring goes on:

1. Help the tutee find the answers instead of giving them to him.

2. Praise the tutee for following steps without having to be told such as:

    a. Asking questions.

    b. Turning pages, marking answers, etc...

    c. Locating information.

    d. Studying independently in an area of need.

Questions tutors should learn to ask in solving problems encountered by the tutees:

1. What difficulty is the tutee having? Why?

2. What needs to happen for him to succeed?

3. What does he need to learn to do a better job?

4. How can I help him feel good about where he is now
    and at the same time encourage him to learn to do
    better?

5. Can I explain a difficult idea in more than one way?

INTERVIEW ACTIVITY SHEET

Tutor_____

(Tutors should fill in answers to all questions.)

Tell your name. Tell why you are doing this. Make the child comfortable. Ask for his help.

1. What is your name?

2. How old are you?

3. How many sisters do you have? How old are they?

4. How many brothers do you have? How old are they?

5. Do you have any pets? What kinds?

6. What is your favorite TV show?

7. What do you like to do in school?

8. What do you hate to do in school?

9. How do you feel about older kids?

10. How does your best friend feel about school?

11. What kind of work do you do at home?

12. What is the most important thing you are going to do after school today?

13. How do you feel about school?

14. What is your favorite story? Tell me what it is about.

TUTORING PROCEDURES

Smile!   Be Friendly!   Use First Names!

    Praise!   Help!

---

1. REVIEW word cards.

    STUDY missed words.

2. DISCUSS story.

3. LISTEN to child read.

4. HELP with missed words.

    SOUND OUT word.

    WRITE word on Word List.

    Child READS word again in sentence.

After five new words on Word List...

5. ASK questions about story.

    "What happened?"

    "Who was in the story?"

    "What sentence goes with this picture?"

6. MAKE flashcards for new words.

    STUDY new words.

7. GAME, STORY, or PRACTICE EXERCISE.

8. FILL OUT Daily Log.

WORD LIST

WORD	PAGE	WORD	PAGE

TUTOR'S DAILY LOG

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

Things to talk about with instructor_____

_____

_____

Directions for use of Daily Log

	EVALUATION OF SESSION
Date	+ Very Good
	= OK
	− Not Good. Discuss problem with child and teacher.

VITA

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