AN INVESTIGATION OF THE EFFECT OF TUTORING PRESCHOOL HANDICAPPED CHILDREN UPON THE SELF-CONCEPT AND ACADEMIC ACHIEVEMENT OF FIFTH AND SIXTH GRADE ELEMENTARY SCHOOL STUDENTS

by

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Dissertation submitted to the Faculty of the Graduate School of the University of Maryland in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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APPROVAL SHEET

Title of Dissertation: An Investigation of the Effects of Tutoring Preschool Handicapped Children Upon the Self-Concept and Academic Achievement of Fifth and Sixth Grade Elementary School Students

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Abstract

Title of Dissertation: An Investigation of the Effect of Tutoring Preschool Handicapped Children Upon the Self-Concept and Achievement of Fifth and Sixth Grade Elementary Students

Nancy D. Keener, Doctor of Philosophy, 1985

Dissertation directed by: Dr. Ruth Heidelbach
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The purpose of this study was to investigate the effect of tutoring preschool-age handicapped students upon the self-concept and academic achievement of upper elementary age students.

Forty fifth/sixth grade students were randomly assigned to treatment and control groups. The twenty students in the treatment group served for sixteen weeks as tutors to sixteen preschool handicapped children two to five years of age. This treatment group was divided into two different subtreatment and control groups. This grouping made it possible to study the effect first, of praise upon the tutor's self-concept and/or academic performance and second, the effect of the tutor planning, teaching and evaluating his/her own teaching sessions.

The study also examined the effect upon self-concept and academic progress of (1) the number of sessions taught, (2) the initial attitude of the tutor toward his tutee, (3) observable progress made by the tutee, and (4) initial low

self-concept and/or low academic performance. The classroom teacher's estimate of the tutor's academic performance and self-concept was compared to the student's estimate of his/her self-concept and his/her academic performance.

Gains made following pre and post administrations of The Piers-Harris Children's Self-Concept Scale and as reflected by grade point averages provided the basic data for the study.

Data was analyzed using a two-tailed t test, Pearson Product Moment Correlations, and multiple linear regression.

Results of the analysis indicated that (1) students in the treatment group maintained higher grades than students not involved in tutoring a preschool student, (2) grades of tutors who spent more time with their tutees dropped, (3) lower pre self-concept scores were associated with higher tutor self-concept gain scores, (4) the classroom teacher's pre judgement of the student's self-concept correlated significantly with the tutor's final self-concept score, and (5) a high correlation existed between the teacher's judgement of the tutor's self-concept and his/her judgement of the tutor's academic ability.

Noting the apparent strong influence of the classroom teacher upon a student's concept of himself, we should perhaps closely examine the strong initial correlation between the teacher's view of the child's self-concept and the level of academic performance within which she sees him functioning. Perhaps it would be more reasonable to consider

providing students with several components to determine their academic performance.

The most influential element with respect to both grades and self-concept appeared to be an attachment factor which occurred as a friendship developed between the tutor and tutee.

DEDICATION

To Robert who devoted hours of time and patience in support of this study.

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CHAPTER ONE

Introduction

The unique set of perceptions, ideas, and attitudes which an individual has about himself determine his self-concept. It defines for him, who he is, what he is, and what he can accomplish. This concept of himself is unique to the individual and is different than the view anyone else has about him. This view is developed through experiences and interaction with individuals whom he recognizes as significant. The individual filters the sensory information he receives during these experiences through his own unique receptors, interpreting it and incorporating it into his existing set of self-referent ideas. The existing ideas tend to limit the information he will accept. From this self-defined information he draws current conclusions about himself in abstract terms.[1]

Introduction to the Problem

The self-perceptions of experiences an individual has every day indicate to him whether he is competent or

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[1] Donald W. Felker. Building Positive Self-Concepts (Minneapolis, Minnesota: Burgess Publishing Company, 1974), pp. 2-16.

incompetent; worthy or unworthy. This concept of self acts as a powerful influence on his behavior. Within the school environment this influence has been found to have a measurable relationship with general achievement, reading, self-responsibility, anxiety, and prejudice.[2,3,4] Studies have shown a student who is cognitively capable of understanding a subject and performing well on assignments may underachieve because he views himself not capable of performing well.[5,6,7]

The task of the educator is to develop a program which helps the individual achieve a more positive self perception and as a result to increase his academic achievement.

Statement of the Problem

The problem of this study was to determine whether the

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[2] Felker, p. 22.

[3] Mary Pat Pfeil, "They Got the Feeling That Everybody's Somebody." Journal of American Education, 5, No. 10, (December 1969), pp. 21-24.

[4] Joann Balmer. "Project Tutor - Look I Can Do Something Good." Teaching Exceptional Children, 5, No. 4, (Summer 1972), pp. 166-75.

[5] P. Lecky. Self-Consistency: A Theory of Personality. N.Y. : Island Press (1945).

[6] M.L. Goldberg. "Studies In Underachievement Among The Academically Talented." in A. Frazier, ed. Freeing Capacity to Learn. Fourth ASCD Research Institute, Washington, D.C.: Association for Supervision and Curriculum Development, National Education Association (1960).

[7] W.K. Durr and R.R. Schmatz. "Personality Differences Between High-Achieving and Low-Achieving Gifted Children." Reading Teacher, 17, (1964), pp. 251-254.

self-concept and academic performance of an upper elementary student would be modified after he tutored a preschool age handicapped student.

The study looked at several factors which could affect the degree of change that might occur. These factors included:

1. Allowing the tutor to plan and execute his tutoring session within general guide lines of educational goals

2. Praising the tutor in writing for his performance

3. Considering different lengths of time for tutoring experiences

4. Evaluating the progress of the tutee

5. Evaluating the tutor's attitude when assigned a particular tutee

6. Evaluating change for students with initial lower academic performance

7. Evaluating change for students with lower initial self-concept scores

8. Noting if classroom teacher evaluations of tutor self-concept reflect the same direction of change as the more formal measure.

The tutor population was randomly selected from a group of fifth and sixth grade students who expressed a desire to tutor and received parental permission to participate. This constituted one-half of the students. The other half served as a control group. The tutor population was sub-divided into control and experimental groups to evaluate

the possible causes of either academic or self-concept behavioral changes.

The study proposed to answer these research questions:

1. Did interacting with a preschool handicapped child in the role of a tutor significantly change the self-concept of a fifth or sixth grade non-handicapped student as measured by The Piers-Harris Children's Self-Concept Scale?

2. Did interacting with a preschool handicapped child in the role of a tutor significantly change the academic performance of a fifth or sixth grade non-handicapped student as reflected by grade point averages?

3. Did changes in academic performance increase significantly when the tutor was given control of planning, evaluating, and executing his tutoring sessions?

4. Did changes in self-concept increase significantly when the tutor was given control of planning, evaluating, and executing his tutoring sessions?

5. Did changes in academic performance significantly increase when the amount of time the tutor spent with his tutee increased?

6. Did changes in self-concept significantly increase when the amount of time spent tutoring was increased?

7. Did changes in academic performance increase significantly when the preschool teacher praised the tutor's performance through written comments?

8. Did changes in self-concept increase significantly when the preschool teacher praised the tutor's performance through written comments?

9. Did changes in academic performance significantly increase when the tutee made progress observable to the tutor?

10. Did changes in self-concept significantly increase when the tutee made progress observable to the tutor?

11. Did the tutoring experience cause a more significant change in the self-concept of students who initially measured below the mean in self-concept?

12. Did the tutoring experience cause a more significant change in grade point average of students who initially measured below average on grade point average?

13. Did the evaluation of the tutor's classroom teacher reflect the same direction of change as the self-concept scale?

14. Did the initial attitude the tutor had toward his preschool student significantly affect the degree of change in his grade point average?

15. Did the initial attitude the tutor had toward his preschool student significantly affect the degree of change in his self-concept?

Purpose of the Study

Although research studies employing cross-age tutoring, with older students teaching younger students, have been reported in the literature, the majority of the studies involved the teaching of an academic skill common to both students. Achievement gains by the tutor in that subject may well have been affected by additional practice and

study. Those studies involving low self-concept and/or low achieving academic students as tutors were designed in this manner, i.e., with a poor reader teaching a younger poor reader. This study was unique in that the skills taught by the tutors were not related to their academic subjects since the tutees were of preschool age. Thus the effect of generalized self-concept changes upon academic performance should have been more readily measured.

The study further looked at the effect of length of time spent with the tutee. This data does not appear to have been previously measured. It also equated the amount of time the control group spent outside of in-class instruction with the amount of time the tutor spent with the tutee. Both groups experienced an equal opportunity to gain from teacher-directed instruction.

Few reported tutoring projects have used tutees who were preschool age. The handicapped status of the young population was also unique to this study.

It was the purpose of this study to investigate one program for enhancement of student self-concept and its relationship to academic achievement. This investigation examined changes in both self-concept and academic achievement of non-handicapped fifth and sixth grade students following their experience tutoring pre school handicapped children (ages 2-5 years) to develop their skills in a developmental area (self-help skills, fine motor tasks, gross motor tasks, play skills, language skills, and

cognitive skills). Particular attention was focused on the changes which occurred for the initially low achieving tutor and/or the tutor with a poor self-concept.

The effects of the tutor controlling his tutoring sessions, receiving written verbal praise, the amount of time spent in tutoring, and the progress the tutee made, were all studied to determine if the change in academic performance and/or self concept increased or decreased under each of these conditions.

Theoretical Bases of the Study

Children's attitudes toward themselves as well as their knowledge of themselves result from their increasing cognitive growth and attitudes of those around them. Both social learning theory and social psychological theory affect the development of self-concept as it is perceived in this study.

Felker referred to this view of self-concept as a humanistic point of view.[8] Historically, James initiated the social psychological emphasis in the 1800's.[9] He linked the social self to social interaction, theorizing that there must be not one but many social selves and that the social "me" grew out of the recognition the individual received from others.[10]

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[8] Felker, 1974, p. 24.

[9] Felker, 1974, p. 19.

[10] Shirley G. Samuels. Enhancing Self-Concept in Early Childhood, (N.Y.: Human Sciences Press, 1977), p. 47.

Mead presented additional theories supporting the social psychological concept. In the 1900's he theorized that infants were born without a self, later developing a self-concept as the result of social experience. Mead theorized that children took on the attitudes toward themselves of significant others in their world, those individuals on whom they depended and who controlled them. The groups to which the individual belonged served as the significant frames of reference.[11]

Erickson wrote that self-esteem resulted from the development of this sense of belonging. The individual needs to be accepted and valued by the members of the group and to see himself as a valued group member.[12] Jersild also felt that individuals saw themselves as worthwhile or not worthwhile in the estimation of others. They judged this from what others did to and for them. He postulated that individuals needed this sense of worth to develop a positive self-esteem.[13]

The implication that children cognitively learn who and what they are from experiences with others also implies that it should be possible to change self-concept through re-

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11 G.H. Mead, "Mind, Self, and Society", in the Social Psychology of George Herbert Mead, E.A. Strauss (Chicago: University of Chicago Press, 1956) from Shirley A. Samuels, Enhancing Self-Concept in Early Childhood (NY: Human Sciences Press, 1977) p. 47.

12 E.H. Erickson. Childhood and Society, 2nd Edition, (N.Y.: Norton, 1950)

13 A.T. Jersild, In Search of Self, (N.Y.: Columbia University, 1952)

interpreting experiences to reflect the individual's positive value and competence. A positive self-concept should result from this feeling of competence.[14]

Riessman developed a Helping Therapy Principle. He suggested that people who have a problem help other people who have a more severe form of the same problem. An example is Alcoholics Anonymous. The person providing the assistance tends to be the individual who makes the greater improvement.[15] This theory of Riessman leads directly into the concept of cross-age tutors being used for the purpose of developing their own skills and improving their own self-concepts by learning through positive experience they are worthwhile.

The underlying basis for cross-age helping lies in understanding the concept of "the helping relationship." It has been demonstrated that cross-age helping encourages improved academic standings, an increased sense of worth and recognition, an increased sense of responsibility, an increased understanding of the value of learning, and increased interpersonal relationships for both tutors and tutees.[16]

Another theory contributing to learning self-concept

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[14] Felker, p. 31.

[15] A. Gartner, M. Conway, M. Kohler, F. Riessman. Children Teach Children, (N.Y.: Harper Row, 1971), p. 9.

[16] W.W. Purkey, A.W. Combs, D.I. Avila, The Helping Relationship Handbook, (Boston: Allyn and Bacon, 1971)

through experience is the role theory. Sarbin postulates that enactment of the role of teacher to a younger child usually produces modifications in self perception, beliefs, attitudes, and overt behavior. The behavior changes tend to fit the behavior expected in the role the child is playing.[17]

> "Empirical data demonstrate that the role enactment does indeed produce behavioral and attitudinal changes in the person inacting a role... In the case of the child who enacts the role of teacher for another child, the role represents prestige, authority, and feelings of competence. It would seem resonable to expect that the enacting of the role of teacher would increase self-esteem and produce a more positive attitude toward school and teachers." [18]

Basic Assumptions of the Study

The following assumptions were made for the study:

1. It is possible to measure self-concept using a self-report measurement device.

2. Teacher given grades represent academic performance.

3. The tutors were not being penalized academically since they were scheduled to work during non-instructional periods. Students in the control group were involved in another non-academic activity for an

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[17] Theodore R. Sarbin. "Cross Age Tutoring and Social Identity in Children as Teachers", in Vernon L. Allen, Children As Teachers, (N.Y.: Academic Press, 1976), pp. 37-38.

[18] Vernon Allen. Children As Teachers, (New York: Academic Press, 1976), p. 22.

equal amount of time during the school day.

4. Grade point averages reflect changes in academic performance with greater accuracy than achievement tests since they are more directly related to the students day-to-day assignments than are general achievement tests standardized over a wider population.

Delimitations of the Study

1. The use of a population of pre school handicapped children may have been a factor which affected the data. Although similar results might be found if other populations of handicapped students were used, further research would be necessary to determine if the age factor was significant. Similar results might also be found using cross-age tutoring with normal preschool/school age populations. Further research would be necessary to determine if the handicapping condition was a significant factor.

2. The use of fifth and sixth grade students only may have affected the data. This was decided since previous experience with this age group indicated they were mature enough to handle the task.

3. The small population available may have affected the data. Replication would be necessary prior to attempts to generalize results.

4. The time span in this school year may have limited the data. The manual for The Piers-Harris Children's Self-Concept Scale recommends long term studies for comparison of scores.

Limitations of the Study

All students were instructed by both sixth grade teachers; however, the amount of time each student spent with either teacher was not equalized. The effect of this differing instructional time was not correlated with grade decisions.

Definitions of Terms

Cross-age tutoring - this term describes older children who are used as tutors for younger children. In some studies, the older child has been selected because he had an academic problem in the same area as the younger child.

Preschool Handicapped Child - a child, twenty-four to sixty-six months of age, placed in a Fairfax County self-contained classroom as the result of developmental delays.

Outline of the Study

Chapter One included a statement of the purpose of the study, the research problem, research questions, the theoretical bases of the problem, the limitations of the study, and the definition of terms. Chapter Two contains a review of the literature. The methodology used including the instruments selected and/or developed, the population sample selected, the research design and procedures is described in Chapter Three. Chapter Four also details the procedures followed in the study including the sources of data and the manner of data collection, as well as the results of the data analysis. A summary of the study, conclusions reached,

and implications are contained in Chapter V.

CHAPTER TWO

Review of the Literature

Self-concept

Our concept of what and who we are deeply affects our behavior in every aspect of our lives. Assisting the contribution of education toward helping students develop healthy and useful self-concepts was an important concern of this project.

William James spoke to us of the many aspects that together create the self.

> "In its widest possible sense, a man's self is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes and his house, his wife and children, his ancestors and friends, his reputation and works, his lands and horses and yacht and bank account... If they wax and prosper, he feels triumphant; if they dwindle and die away, he feels cast down ..." [1]

Donald Felker tells us:

> "... for a child to gain self-esteem or to view himself in a positive way, it is necessary for him to feel that he 'belongs,' that he is 'competent' and that he is 'worthy.' When a baby is born, he or she does not have any of these feelings, but he or she very quickly begins to develop them." [2]

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[1] William James. The Philosophy of William James, (New York: Random House, 1925), pp. 124-125.

[2] Donald Felker. Building Positive Self-Concepts, (Minneapolis: Burgess Publishing Co., 1974), preface.

Felker explains there are three main factors that contribute to the unique view individuals learn to call self: perceptions, ideas, and attitudes.[3] Individuals are constantly receiving and absorbing sounds, tastes, smells and tactual, kinesthetic, haptic, and propreoceptic data. All of this data is filtered, interpreted, and selectively stored in the individuals own unique manner. These sensory perceptions become the basis for ideas. The sensory data received is given meaning. The meaning given the data results from the individual filtering the information through his already developed ideas to interpret it and give it meaning. These sets of ideas about themselves define for each individual who and what he is; they become his self-concept. Each new perception is affected by and affects this self-concept. The ideas develop into attitudes toward the self as more ideas cluster together. The ideas become emotionally toned. The unique set of feelings individuals have about themselves are attitudes. These attitudes are powerful and not easily changed. To change an attitude of the individual would involve changing what he sees, hears, feels, and thinks; convincing him that what he perceives is not reality.[4]

Changing of how an individual sees himself has been the basis of psychotherapy. The therapist traditionally has depended upon the existence of an inner self

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[3] Felker, 1974, pp. 2-4.

[4] Felker, 1974, p. 6.

that the therapist could appeal to for help in bringing about behavior and personality changes. Through the therapists interpretations, the individual may gain insight into himself and divest himself of the repressing mechanisms that were causing his problem.

Carl Jung, a student of Freud,[5] first applied the word self to the inner being with whom the therapist tried to communicate.

The self and self-concept have been topics of concern to behavioral scientists since the days of William James (1890). He described infants as being without a self at birth, then learning through experience a concept of himself. In 1902 Charles Cooley theorized an individual imagines himself in the mind of another as to appearance and the other's appraisal of that appearance. The individual then responds to that imagined appraisal with a self-value feeling such as pride or shame. In 1927 Adler emphasized the social determinants of behavior. He felt that individuals were aware of the reasons for their behavior.[6] In 1934 George H. Mead theorized that an individual conceives of himself as he believes significant others conceive of him. He will tend to act to fit the expectations of these people. He felt social interaction

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[5] William Samuel. Contemporary Social Psychology: An Introduction. (N.J.: Prentice-Hall Inc., 1975), pp. 396-97.

[6] Shirley C. Samuels. Self-Concept in Early Childhood, (N.Y.: Human Sciences Press, 1977), p. 48.

was an integral part of the development of self concept.[7] In 1935 Lewin viewed the self as a central and relatively permanent organization which gave consistency to the entire personality. In 1939 Goldstein analyzed the process of self-actualization in contrast to the sick organism that must constantly worry about bodily preservation. In 1945 Lecky expressed a notion of self-consistency as a primary motivating force in human behavior. Bertocci emphasized the self had two aspects, self as the subject "I" and self as the object "me." Murphy in 1947 discussed the origins and modes of self-enhancement and how the self is related to the social group. In 1948 Raimy introduced measures of self concept in counseling interviews. Gordon Allport emphasized the importance of self. Carl Rogers built a "nondirective" therapy around the importance of self. He described the self as a social product, developing out of interpersonal relationships and striving for consistency.[8]

In the forties Combs and Snygg also influenced the concept of self as a factor in education and psychology. They proposed that the basic drive of the individual is the maintenance and enhancement of the self. They declared that all behavior is dependent upon the individual's personal frame of reference, the totality of experience of which an

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[7] William Fitts, et. al. The Self-Concept and Self-Actualization, (L.A.: Western Psychological Assn., 1971), p. 48.

[8] William Purkey. Self-Concept and School Achievement, (N.J.: Prentice Hall Inc., 1970), pp. 4-7.

individual is aware at an instant of action.[9]

Although behaviorism became popular in the 1930's there was a renewed interest in the development of self concept in the 1940's. By the 1970's sociologists, psychiatrists, theologians, philosophers, educators, anthropologists and psychologists all had become concerned with this concept. Those professions involved with the understanding of people and their behavior appear to view the self-concept as a central construct by which people and their behavior can come to be understood. The professional literature presently has thousands of theoretical articles and research studies about self concept.[10] The writings of Brookover, Patterson, Combs, Diggory, and Coopersmith, among others, have given us a deeper understanding of the self as it relates to behavior.[11]

In Self-Concept and Self Actualization, William Fitts and Wayne Richard describe self theory as a theoretical system developed through the works of Rogers, Combs, Snygg, Lecky, Wylie and others. This theory is strongly phenomenological in nature. It is based on the principle that man reacts to his phenomenal world in terms of the way he perceives this world.

"The most salient feature of each person's

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[9] Purkey, p. 6.

[10] Fitts, 1971, pp. 2-3.

[11] Purkey, 1970, p. 7.

> phenomenal world is his own self - the self as seen, perceived, and experienced by him. This is the perceived self or the individual's self concept ... The self-concept or self image, is learned by each person through his lifetime of experiences with himself, with other people, and with the realities of the external world." [12]

Most self theorists agree that self-concept once clearly defined is fairly stable, but throughout life continually changes and develops. Self-concept is affected to the greatest degree by:

1. interpersonal experiences which generate positive feelings and a sense of value and worth
2. competence in areas the individual and others value
3. the implementation and realization of one's true potentialities - whatever they may be.

One of the interesting aspects affecting changing self-concept is our tendency to explain another person's behavior in terms of enduring traits but our own failure behavior in terms of situational demands, i.e., emotional stress, financial problems, etc. Favorable behavior we tend to ascribe to our own inherent traits because it boosts self esteem. Snyder, Stephen, and Rosenfeld completed a study in 1976 which demonstrated this tendency.[14]

Thus helping the individual experience success should lead him to ascribe the success to his own positive traits.

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[12] Fitts, 1971, p. 3.

[13] Fitts, 1971, p. 38.

[14] Melvin L. Snyder, Walter G. Stephan, and David Rosenfeld. " Egotism and Attribution," Journal of Personality and Social Psychology, 33, 4 (1976). 435 - 441.

> "A person shapes a self-concept out of his experience in which he puts together his knowledge of what he is and how he compares to others. His attitudes and meanings, as they are learned, also build into an ideal of what he should be... " [15]

A self-accepting person knows his weaknesses, which faults he can alter, and learns to live with the rest but feels despite his limitations he is a person to be approved and that he is doing what can reasonably be expected of him. He approves of himself even knowing he is not perfect.

Tutoring

Tutoring has been cited in the literature as a method through which educators could both enhance skills and build positive self-concepts of students in the tutor role. These studies describe tutoring projects using students of similar ages as tutors (peer tutoring) as well as using older students to assist younger students (cross-age tutoring).

Historically, Comenius noted that, "He who teaches another teaches himself."[16] This principle of teaching other children has been implemented for many years. Montessori used this approach by having the more advanced students teach the less advanced students. The one room schoolhouses in the United States also used this method to successfully teach many levels of students under the care of a single teacher. Andrew Bell used this system in 1797 to teach boys in an

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[15] Lee Cronback, Educational Psychology, (N.Y.: Harcourt, Brace & Co, 1954).

[16] John A. Comenius. The Great Didactic translated by William M. Keating, London England, A&C Bloom Ltd., 1921. (Originally published 1632) in Tommy King, "Learning From a Pal", The Reading Teacher, (March, 1982).

orphans school in India, improving both behavior and learning. In England in the 1830's Joseph Lancaster adopted the system modifying it so that a schoolmaster taught older monitors who then taught the younger students. He declared 1000 students could thus be taught by one teacher. Children teaching children is used in the British Infant School in a multi-age grouping, in which the older students assist younger students with problems. In 1972 Jerome Bruner re-emphasized this principle when he proposed giving children in school more responsibilty for educating each other. He felt education should be communal rather than competitive. He recommended student assisted learning.[17] In 1974 the report of the Panel of Youth of the President's Science Advisory Committee also emphasized this concept by establishing one requisite for an appropriate environment for young people included the opportunity for children to assume responsibilities that affect the lives of others.[18]

A part of the success of children teaching other children may be attributed to the theory of "the helping therapy principle." This principle maintains that the inactment of a role produces changes in behavior, attitude,

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17 J. Bruner, "Immaturity - Its Uses, Nature, and Management," The Times Educational Supplement, (London) Oct. 27, 1972, pp.62-63. in S. Armstrong et.al. "The Cost Effectveness of Peer and Cross-age Tutoring", Paper presented at CEC Convention, Dallas, Texas (April, 1979).

18 J.S. Coleman, Youth: Transition to Adulthood, Chicago: University of Chicago Press, 1974) in S. Armstrong et. al. "The Cost Effectivenss of Peer and Cross-age Tutoring", Paper presented at CEC Convention, Dallas, Texas (April, 1979).

and self-perception consistent with the expectations associated with the role. Riessman, who developed the theory, maintains that people with a problem helping other people who have a more severe form of the problem tend to make more progress toward solving their problem than do those they help.[19]

Tutoring Affects the Behavior of the Tutor

It has been documented tutoring changes the behavior of the tutor even more than the tutee.[20] This phenomenon has been particularly noted in studies where cross-age tutoring, older students teaching younger students, has been used. Three major theories appear to explain this behavior: the helping therapy theory, the role theory, and the belief that self-concept is a cognitively learned concept through interaction with others.

Combs, Avila, and Purkey assert that a positive view of self is learned and being learned can be taught.[21] They feel self-concept is taught through people having successful experiences. When people are treated with dignity, integrity, and acceptance, and are liked, they feel wanted. They feel they can do things because they have experienced

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[19] A. Gartner, M. Conway, M. Kohler, F. Riessman. Children Teach Children, (NY: Harper Row, 1971), p.9.

[20] Gartner, pp. 1-4, 35, 44.

[21] Arthur Combs, Donald Avila, and William Purkey, Helping Relationships Sourcebook (Boston: Allyn and Bacon Inc. 1971), p.7.

success.[22] Successful living produces self esteem.

Cross-age tutoring provides one of the experiences of success. It offers an atmosphere in which the student feels he is respected.[23] "Nothing is more encouraging to a student than feeling that adults really trust him ...,"[24] How the individual feels and thinks determines his actions."[25] The crucial matter is not so much what you are, but what you think you are."[26]

When tutoring a younger child the older tutor can learn to be nurturant and to take the responsibility for another. The younger child tends to try to emulate his tutor. This enhances the self-esteem of the older child.[27] The one-to-one relationship encourages an ascribed role. The child is dependent on affective communication. Caring is a natural result. The physical and psychological distance between the tutor and tutee is reduced. These conditions encourage the development of the older child assuming an obligation of caring for the younger child. The teacher and the other

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[22] Haim G. Ginott. Teacher and Child (N.Y.: Harper and Row Publishers, 1972) p.1.

[23] Arthur W. Combs, Chairman, Perceiving, Believing, Becoming, ASCP Yearbook (Washington, D.C; NEA Association for Supervisors and Curriculum Development, 1962) p.96.

[24] Combs 1962, p 174.

[25] Arthur Combs, 1971.

[26] Combs 1962, p.10.

[27] Vernon L. Allen. Children As Teachers (N.Y.: Academic Press, 1976) p.22.

adults involved with the two students tend to positively reinforce this relationship.[28]

Enactment of the role of teacher to the younger child usually produces modifications in self perceptions, beliefs, attitudes, and overt behavior. The changes tend to fit the behavior expected in the role.[29]

> "Empirical data demonstrate that the role enactment does indeed produce behavioral and attitudinal changes in the person enacting a role... In the case of the child who enacts the role of teacher for another child, the role represents prestige, authority and feelings of competence. It would seem reasonable to expect that the enacting of the role of teacher would increase self-esteem and produce a more positive attitude toward school and teachers." [30]

Numerous studies using cross-age teaching indicate tutors demonstrate a positive change in self-concept and academic levels. Based on the helping therapy concept, Bar-Eli and Raviv postulated that a child acting as a tutor derives a new, increased self-esteem and develops his own ability to learn. They attempted to demonstrate this via a learning through teaching project using fifth and sixth grade underachievers. The academic achievement of the tutees was compared to that of matched subjects who continued regular in-class study. The difference in achievement of the matched subjects who did not tutor and tutors was also

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[28] Theodore B. Sarbin, "Cross Age Tutoring and Social Identity in Children as Teachers" in Vernon L. Allen. Children As Teachers (N.Y.: Academic Press, 1976) pp. 37-38.

[29] Sarbin pp. 76-78.

[30] Allen 1976 pp. 114-115.

compared. Further, changes in the self-concept of the tutors was investigated. The results of the study found the second grade tutored pupils showed significant improvement on the Standard Arithmetic Test but not in classroom grades. The tutors showed significant improvement both on the test and in teacher's grades. The self-concept questionnaire used did not indicate a difference.[31]

Kathryn Price and Margaret Dequine found good results using low-achieving tutors. Gains were made in the areas of self-esteem and transfer of learning. Studies of self-concept and behavior found students who were withdrawn or aggressive became more interested in the learning process after serving as tutors. Teachers noticed increased responsibility and organization.[32] The advocate of the program postulates the gains resulted from the reversal of roles, which allowed healthy experiences with peers, in which learnig disabled students became "givers" rather than "receivers" thus gaining the status necessary to enhance their own learning.

"Learning by Doing" is a tutoring program used in Dallas in grades K through 12. The results of the program indicated less academic failure, improvement of self-concept by tutors

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[31] Nurit Bar-Eli and Ameran Ravis, "Underachievers as Tutors;" Journal of Educational Research, 75, No. 3, January, February, 1982, pp. 139-141.

[32] Kathryn Price and Margaret Dequine, "Peer Tutoring: It Builds Skills and Self-concept", Academic Therapy, Jan. 1982, p. 365.

and tutees, and a sense of belonging on the part of both.[33]

Cross-age helping has shown "highrisk" students gain from experiences as tutors.[34] "Learning Through Tutoring", a study conducted at the University of Wisconsin, indicated low achieving children can improve academically when serving as tutors for younger students.[35] A study completed in Israel used fourth and fifth grade students as tutors for second grade students. The results indicated gains in increased self-confidence, improved self-image, increased self-assurance, better behavior, and improved learning.[36] Reed in 1976 demonstrated tutors are benefitted by reinforcing their own knowledge and enhanceing their self-confidence.[37] Ross in 1974 indicated significant gains were made by tutors in reading and self-concept.[38] Hamblin found disadvantaged children usually turned out to be effective tutors of peers

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33 W. Vasallo, "Learning by Tutoring", American Education, 9, 1973, pp. 25-28.

34 J. D. Dallas, "Cross-age Tutoring and Highrisk Students", Clearing House, 48, 1974, p. 300-302.

35 V. L. Allen and R. S. Feldman, "Learning Through Tutoring: Low Achieving Children as Tutors", Journal of Experimental Education, 42, 1973, pp. 1-5.

36 A. Weiner et.al. "Applying the Helper-therapy Principle: A Children Teach-Children Project", Child Welfare, 53, 1974, pp. 445-451.

37 D. B. Laserson. "I Must Be Good If I Can Teach", Journal of Learning Disabilities, 13, No. 3, March, 1980, p. 3.

38 Laserson pp.3-4.

who learned little from adults.[39]

Several major reviews of studies involving tutoring by peers and para-professionals have concluded that tutorial programs contribute to the academic growth of the children who are tutored and probably the growth of the children who provide the tutoring as well.

Cohen and Kulik integrated 65 studies on tutoring which described outcomes in learning, attitudes, and self-concept. They found tutoring programs had pronounced effects on learning and attitudes of tutees. The tutoring programs also made positive contributions to the learning and attitudinal growth of student tutors. In 90 percent of the 38 studies, students who served as tutors performed better than did students in the control group. Ten of the 38 studies reported statistically significant results. 16 studies reported findings on self-concept of student tutors. In 12 studies self-concept was higher. Four studies showed statistically significant differences.[40]

Studies of cross-age tutoring by Hassinger and Via in 1969 reported gains significant at the .01 level, by high school tutors who did cross-age tutoring with fourth, fifth, and sixth grade students.[41]

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[39] Laserson pp.3-4.

[40] Peter A. Cohen and James A. Kulik, "Synthesis of Research on the Effects of Tutoring", Educational Leadership, Dec. 1981, pp.227-229.

[41] Tommy King, "Learning From a Pal", The Reading Teacher, March 1982, pp.682-685.

Peer assisted learning was shown to improve self-concept in a study in 1976 by Mason.[42] Tommy King conducted a "Peer Assisted Learning" project with seventh grade tutors teaching third grade students. At the end of eight weeks the tutors scored significantly higher (.05 level) in reading comprehension than the control group.[43]

Hartup suggests peer tutoring as a means of providing opportunity for social interaction between children. Both children benefit from the peer tutoring experience. The tutor gains in self-esteem due to the increased status the role provides and has an opportunity to experience a nurturing role which helps to increase his sensitivity to others.[44]

In a study of intra-grade tutoring at the end of 12 weeks, tutors showed an average gain of 8 months as compared to non-tutors who showed 5 month gains.[45] After serving as a tutor in reading for a classmate with Down's Syndrome, a first grade student showed a sightword gain of 79 words.[46]

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[42] King p.683.

[43] King pp.682-685.

[44] Annie Widerstrum, "Mainstreaming Handicapped Preschoolers: Should We or Shouldn't We?" Childhood Education, Jan./Feb. 1982, p.172.

[45] King pp.682-685.

[46] N. L. Cooke, T. E. Heron, W. L. Howard, David Test, "Integrating a Down's Syndrome Child in a Classwide Peer Tutoring System: A Case Report", Mental Retardation, Feb. 1982, pp.22-25.

Tutoring with Locus of Control as Related to Self-Concept/Academic Improvement

> "It is difficult for self-esteem to grow in an environment where there is little or no freedom of choice". [47]

The concept of locus of control was developed from the learning theory of Rotter (1954).[48] It refers to the individual's perception of his ability to control his successes and failures.

> "Perceived control of events is one motivational variable that appears to affect children's academic achievement." [49]

If an individual feels that other people and happenings control how he performs, then he has little internal control of his achievements and/or failures.

> "Internal control refers to an individual's belief that an event or outcome is contingent on his or her own behavior or on relatively permanent characteristics such as ability. The belief that an event is caused by factors beyond the individual's control (e.g., luck, task difficulty, another and powerful person) has been labeled external control." [50]

Rotter (1966)[51] claims that if reinforcement is not seen as

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[47] William W. Purkey. 1970. p.51.

[48] J.B. Rotter, Social Learning and Clinical Psychology. (N.Y.: Prentice-Hall, 1954)

[49] Deborah J. Stipek and John R. Weisz. "Perceived Personal Control and Academic Achievement" Review of Education Research, 51, No. 1 (Spring 1981), 101-137.

[50] Stipek. 1981, p. 102.

[51] J.B. Rotter. "Generalized Expectancies for Internal vs. External Control of Reinforcement." Psychological Monographs, (1966), 80.

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contingent on the subject's own behavior, then it will not increase the likelihood that a particular behavior or event will be followed by reinforcement in the future.

> "Social learning theorists suggest that children's behavior in achievement situations is influenced by their perceived locus of control. If the child believes the outcome of a situation is contingent on his or her behavior then the academic success will increase the likelihood of a child's instrumental behaviors such as attention or persistence at future tasks. [52]

The value of the reinforcement also affects the behavior. If a child does not value a high grade he will not study for a test even if he knows studying is the most likely way to obtain a high grade. Grades appear to be more directly related to locus of control than do achievement tests.[53]

Messer (1972) found a relationship between inner and external control and academic performances as well as in attitudes toward school.[54] In 1971 Felker and Thomas investigated locus of control, discovering that the relationship seemed sex-related and related to the success factor. Boys with high self concepts simply put the blame on another person if they failed. Girls with high self-concepts took the credit for success themselves.[55]

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[52] Stipek. 1981. p. 102.

[53] Stipek. 1981. p. 102.

[54] S.B. Messer. "The Relation of Internal-External Control to Academic Performance." Child Development, 43, (1972), 1456-1462.

[55] D.W. Felker and S.B. Thomas. "Self-Initiated Verbal Reinforcement and Positive Self-Concept." Child Development, 42 (1971), 1285-1287.

Some of the most impressive and educationally relevant research concerning the relationship between locus of control and achievement comes from classroom intervention studies.[56] In 1974 Mathney and Edwards trained 25 teachers to implement a contingency management educational program. Teachers were to give students more responsibilty for their own learning experiences. The children in the experimental program made remarkable imrpovement in reading. The classroom in which the improvement was most dramatic demonstrated statistically significant changes toward internal control. The correlation between the locus of control scores and reading achievement scores was significant. Scores on the locus of control test for the other class rooms shifted toward internality but not significantly.[57]

Wang and Stiles used second grade children to evaluate the effect of student control. The teachers decided the assignments for the day but the children could complete them in any order the chose. The children completed a significantly higher percentage of their tasks under this design than they did when the teacher decided the order of task completion.[58]

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[56] Stipek 1981, p.119.

[57] K. Mathney and C. Edwards. "Academic Improvement Through An Experimental Classroom Management System." Journal of School Psychology, 12 (1974) 222-232.

[58] M. Wang and B. Stiles. "An Investigation of Children's Concept of Self-Responsibility For Thier School Learning." American Educational Research Journal, 13 (1976) from Deborah T. Stipek and John R. Weisz: "Perceived Personal Control and Academic Achievement" Review of Educational Research, 51, 1, (1981) pp.101-137.

Harter[59] and Weiner[60] both indicate that perceptions of personal causality are believed to enhance the affective response to success. Harter suggests that pleasure in mastering a task is greatest when the subject accepts the responsibility for the success. She claims that perceptions of personal control are essential for a sense of competence to result.[61]

Praise During Tutoring As Related To Tutor Self-Concept/Achievement

Approval or disapproval from adults as determinants of achievement were studied by Crandall et al (1960), Katz (1967) (1976), Bilby (1973), Dion and Miller (1973). All the researchers found the greater the extent of disapproval the children perceived and the less approval, the less favorably they themselves evaluated their performances. Crandall et al found preschool children exhibited more achievement efforts in freeplay situations if their mothers responded positively when their children sought approval and also usually rewarded and praised their children's efforts even when not asked.[62]

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[59] S. Harter. "Effective Motivation Reconsidered: Toward a Developmental Model." Human Development, 21 (1978) 34 - 64 in D. J. Stipek and J. R. Weise "Perceived Personal Control and Academic Achievement." Review of Educational Research, 51, No. 1 (Spring, 1981) 101 - 137.

[60] R. White "Motivation Reconsidered. The Concept of Competence." Psychological Review (1959) 297 323 in D. J. Stipek and J. R. Weise "Perceived Personal Control and Academic Achievement." Review of Educational Research, 51, No. 1 (Spring, 1981) 101 - 137.

[61] S. Harter. 1978.

[62] Samuels. 1977. p. 110.

Crandall (1960) suggested that some children need approval from significant others to define for them how competently they are performing.[63]

Ludwig and Maehr showed that this approval by significant others caused an increase in self-ratings and increased preference for activities connected with the criterion task. Disapproval resulted in a lower self-rating and a decreased preference for related activities. There was a spread effect from areas directly approved to related areas.[64]

A teacher's reactions give feedback on the appropriateness of behavior as they interact with students on a daily basis. As a significant other, the teacher is a model to the children he teaches. By what he says and how he says it and by his facial expressions, the teacher conveys his feelings about a child. He teaches the child by his behavior how the child should perceive himself. He also teaches a whole class how they should perceive individual children. Kagan saw the teacher's major role as a model of values.[65]

Costelli reviewed the literature concerning motivation in education. Significant others were found to be influential in learning a selfconcept and in learning to

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[63] Samuels. 1977. p. 189.

[64] D. J. Ludwig and M. I. Maehr, "Changes in Self-Concept and Stated Behavioral Preferences". Child Development, 38 (1967) 453 - 467.

[65] J. Kagan. Understanding Children (New York: Harcourt Brace, 1971).

self-evaluate both through reinforcement and modeling.[66]

Research by Page in 1958 found pupils' performance improved significantly when teachers wrote encouraging comments on their written work. The control group in the experiment regressed in their performance level.[67]

Progress of the Tutee As Related To Tutor's Change in SelfConcept/Academic Progress

In a series of studies, the researchers investigated the influence of the amount of progress made by the tutee upon the attitude and achievement of the tutor. Several studies showed that the tutor was affected by his tutee's learning well only if that learning took place during the early tutoring sessions. If the entire record of the tutee's progress was available for the tutor to study, his responses tended to be affected only by the most recent behaviors of the tutee.[68] Both role theory and the reinforcement theory suggest that the degree of a student's success over a period of time will affect the tutor's perception of the student's

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66 C. G. Costelli. "Ego Involvement, Success and Failure: A Review of the Literature." in H. J. Eysenck Experiments In Motivation Education. (N.Y.: MacMillan Co., 1961) pp. 161 - 208.

67 E. B. Page. "Teacher Comments and Student Performance: A 74 Classroom Experiment In School Motivation." Educational Psychology, 49 (1958) 175 - 81.

68 V. L. Allen and R. S. Feldman. "Tutor Attribution and Attitude as a Function of Tutee Performance." Journal of Applied Social Psychology, 4 (1974) in Veron L. Allen Children As Teachers (N.Y.: Academic Press, 1976) pp.117 119.

ability and his liking for the student.[69]

How Tutoring Affects Underachievers Used As Tutors

Underachievers improve when they have the opportunity to tutor. A sixth-grader with reading difficulties is able to reach and teach a younger child with similar troubles. He understands his student's soft spots and is patient and compassionate. In the process of helping the helper is helped the most.[70]

In 1970 McWhorter and Levy used college level students who evidenced low reading ability as tutors of elementary students with low reading ability. At the end of one semester the tutors had gained 2.4 years in reading skills.[71]

Poorly motivated students were used as tutors by Mohan in 1972. Each tutor was assigned a younger child who also was poorly motivated to learn. Objective attitude scales and subjective teacher ratings both indicated that the tutors increased in their motivation for learning, in self-concept, and in their attitude toward school. Each improved academically in the subject they taught.[72]

The effects of underachievers tutoring younger pupils

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69 V.L. Allen and R. S. Feldman, p. 117.

70 H. G. Ginott, 1972, p. 205.

71 R. T. McWhorter and J. Levy. "The Influence of a Tutorial Reading Program Upon Tutors" Journal of Reading. (1970) 221-224.

72 M. Molin. "Peer Tutoring As A Technique for Teaching the Unmotivated." A Research Report (N.Y.: Teacher Education Research Center, State University College, March 1972).

was chosen as the focus of research completed at Tel-Aviv University. The success of the "learning through teaching" method hinges on heightened self-esteem and interest in the process of studying, which brings about a positive change in the child's self-concept as well as in his motivation. This process appeared to meet the needs of the underachiever who performed on a day-to-day basis below what might be expected on the basis of his intelligence. Fifth and sixth grade underachievers tutored second grade underachievers. Control groups were used. Both academic skills and self-concept showed improvement for the tutors. The achievement gains were significant at the .05 level.[73]

Children With Lower Self-Concept Used As Tutors

As a person experiences success, he often is motivated to strive for other success, with the end result being a more positive feeling about him/herself ...a feel of 'I can-ness.' The notion of I can-ness comes from exploring past success through a variety of experiences.[74]

A person with a poor self-concept can break down some of the barriers that separate him from others.

> "By good experiences, he can become less fearful and more open. This process too feeds on itself and confidence can be built by the quality of his experiences with others... " [75]

The sense of self is learned through experience. A

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[73] Bar-Eli, 1982.

[74] Combs, 1971. p. 15.

[75] Combs, 1962. p. 16 (E. C. Kelly).

positive self is teachable.[76] What is learned can be taught.

This was demonstrated by Ronald and Peggy Lippit, social scientists at the University of Michigan, who conducted studies in cross-age tutoring in the Detroit Schools, at the high school, junior high, and elementary levels. Results showed that in the process of helping others to learn tutors acquired social skills and academic competence. They learned to relate to younger children, filled in the gaps in their own studies, increased motivation, self-respect, and belief in their own ability.[77]

How Length of Tutoring Experience Relates To Tutor Self-Concept and Achievement

"The literature on tutoring apparently does not contain any studies comparing different amounts of time spent in tutoring. Most investigators hold the implicit view that the longer the tutoring program, the more positive the effects will be."[78]

Ralph Melaragno, who has been associated with the tutorial community project in Pacoima, California, suggests that tutors become bored when repeating drill type instruction over an extended period.[79] He found this particularly true of elementary school tutors.

The majority of studies use tutoring as a remedial

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[76] Combs, 1972. p. 206.

[77] Ginott, 1972, p. 206.

[78] Allen, 1976, p. 242.

[79] Allen, 1976, p. 183-84.

program for classroom instruction, so that tutoring plus classroom instruction is measured. One study by Bausell, Moody, and Walzl in 1972, compared tutoring instruction to classroom instruction with both groups being taught for the same amount of time. The individual tutoring of fourth and fifth graders by college-age education students resulted in significantly higher learning than the group instruction.[80]

It may be expected, however, that the longer a student and tutor work together, the more effect the student will have on the tutor, providing the relationship is initially positive. Studies indicate that, all other factors being equal, repeated exposure to various stimuli produces positive attitudes toward those stimuli.[81] Zajone in 1968 used photographs to demonstrate people develop positive attitudes toward faces they see most frequently. These findings were supported by research using people by Saegert et. al. in 1973. When the persons initial attitude toward another is favorable or neutral, repeated exposure to that person is likely to have a positive effect.[82]

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80 R. B. Bausell, W. B. Moody, and F. N. Walzl, "A Factorial Study of Tutoring Versus Classroom Instruction." American Education Research Journal, 9 (1972) pp. 592 - 597.

81 Robert B. Zajone. "Attitudinal Effects of Mere Exposure," Journal of Personality and Social Psychology 9, (1960) pp. 1-27. Susan Saegert, Walter C. Swap and Robert B. Zajonc. "Exposure, Context, and Interpersonal Attraction." Journal of Personality and Social Psychology 25 (1973) pp. 234 - 242.

82 Philip J. Brickman, Joel Redfield, et. al., "Drive and Predisposition as Factors in the Attitudinal Effects of Mere Exposure." Journal of Experimental Social Psychology, 8 (1972) pp. 31 - 44.

Self-Concept and Academic Achievement

In 1945 Lecky was one of the first investigators to relate self-concept to school achievement. He studied spelling errors finding the responses were affected by how well the students felt they could spell rather than their actual ability. He noted that some children made the same number of spelling errors on each page, regardless of the level of difficulty of the words.[83] The successful achieving student was found to be characterized by self-confidence, self-acceptance, and a positive self-concept.[84] In a study by Brunkan and Sheni in 1966 efficient and effective readers characterized themselves in favorable ways but ineffective readers did not.[85] Likewise in 1967 Farls found achieving intermediate grade students reported significantly higher self-concepts than low achievers.[86] These same trends were found in 1968 by Williams and Cole and by Farquhar.[87]

Brookover and his associates followed a group of

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83 P. Lecky, Self-Consistency: A Theory of Personality. (N.Y.: Island Press, 1945).

84 J. C. Gowan "Factors of Achievement in High School and College." Journal of Counseling and Psychology. (1960) 91-95. in William Purkey. Self-Concept and School Achievement. (N.J.: Prentice Hall, Inc., 1970) p.18.

85 R. J. Brunkan and F. Sheni. "Personality Characteristics of Ineffective, Effective, and Efficient Readers." Personnel and Guidance Journal, 44, (1966) 837-44.

86 R. J. Farls. "High and Low Achievement of Intellectually Average Intermediate Grade Students Related To the Self Concept and Social Approval" Dissertation Abstracts, 28 (1967), 1205 in William W. Purkey. Self-Concept and School Achievement (N.J.: Prentice-Hall, Inc., 1970) p.18.

87 Purkey, 1970, p.18.

students from seventh through twelfth grade. To study their data they factored out intelligence. Self-reported self-concept of ability was significantly related to achievement among both boys and girls, at each grade level.[88]

In his discussion of self-concept and school achievement, Purkey states research evidence has demonstrated a persistent relationship between the concept of self and school achievement. He cites studies by Campbell (1965), Bledsoe (1961), and Baum (1969) which show the strongest relation between self-concept and academic achievement for boys.[89]

Fink studied and discussed this behavior in 1962, using two groups of ninth-grade students who were paired for achievement-underachievement. To determine as adequate or inadequate the self-image of each student, three separate psychologists used data from the California Psychological Inventory, the Bender Visual-Motor Gestalt Test, the Draw-a-Person Test, the Gough Adjective Checklist, a personal data sheet, and a student essay entitled "What I will be in 20 years." Fink found a significant relationship between self-concept and academic underachievement, with the behavior more male than female oriented.[90]

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[88] W. B. Brookover, T. Shaler, A. Patterson, "Self-Concept of Ability and School Achievement" Sociology of Education, 37 (1964), 271-279.

[89] Purkey, 1970.

[90] M. B. Fink, "Self-Concept As It Relates to Academic Achievement." California Journal of Educational Research, 13 (1962) 37-42 in W.W. Purkey, Self-Concept and School Achievement (N.J.: Prentice-Hall, Inc. 1970) p.16.

A series of studies of underachievers supported the belief that achievement in school is limited by the students concept of his ability. In 1960 Goldberg studied underachievers in high school. He used a list of characteristics which the student was to choose to describe himself. The underachiever perceived himself as less able to accomplish required tasks, less eager to learn, less confident, less ambitious.[91] In 1964 Durr and Schmatz investigated differences between elementary students who achieved and underachieved. They found the underachievers to be more withdrawn, lacking self-reliance, lacking a personal feeling of self-worth, expressing a feeling of not belonging, and feelings of inadequacy. They judged the students to be behaviorally immature.[92] Taylor reviewed the literature in 1964 reporting findings that the underachiever is self-derogatory, depressed about himself, feels inadequate, and has strong inferiority feelings.[93]

Although the relationship between self-concept and academic performance has been well documented, the cause and effect relationship has not been firmly demonstrated, nor has

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91 M. L. Goldberg. "Studies In Underachievement Among The Academically Talented." in A. Frazier, ed. Freeing Capacity to Learn, Fourth ASCD Research Institute. Washington, D.C.: Association for Supervision and Curriculum Development; National Education Association. (1960).

92 W. K. Durr and R.R. Schmatz. "Personality Differences Between High-Achieving and Low-Achieving Gifted Children. Reading Teacher. 17 (1964), 251-54.

93 R. G. Taylor "Personality Traits and Discrepant Achievement: A Review Journal Counseling Psychology. 11 (1964), 76-81.

the ability of the educational setting to modify this relationship been conclusively demonstrated.

Grade Point Average As a Measure of Academic Progress

The research studies correlating the results of the Tennessee Self Concept Scale and Grade Point Averages tend to show stronger relationships than with achievement tests. This seems logical since the individual's performance compared to the standards of his school and classmates, probably has more direct significance to his self-concept than nationally standardized tests.[94]

From 1959 - 1971 Seeman and his students conducted a group of studies showing that individuals with high personality integration had higher grade point averages than random normal samples of similar intellectual ability.[95]

In Memphis, Hughes (1967) found the high self-concept group of sixth graders had better grades than the low self-concept group. Gabel (1971) discovered that high school graduates with high self-concepts demonstrated higher grade point averages.[96]

A correlation study by Gay in 1966 using black eighth graders reported a .48 correlation between the self-concept score and grade point averages (.62 male and .35 female).[97]

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94 W. H. Fitts, The Self-Concept and Performance. (L.A.: Western Psychological Services, 1972) p. 29.

95 Fitts, 1972, p. 29.

96 Fitts, 1972, p. 30.

97 Fitts, 1972, p. 31.

The Measurement of Self-Concept

Self-concept is a psychological construct or an imaginary mechanism which helps the psychologist think about the phenomena he is studying. A construct cannot be seen or measured directly. It is a concept of self inferred from behavior.[98] Rogers taught that the best vantage point for understanding behavior was from the internal frame of reference of the individual himself.[99]

The method of the self report is weak in validity. Some subjects find it impossible to give an accurate evaluation of themselves because emotional blocks and defenses get in the way. A subject can easily fake a self-report or his self-report may change as his mood is affected by happenings of the moment. The self-report is good only to the degree the subject will/can report his real feelings and beliefs. It is most necessary to obtain the good will of the subjects.[100]

Observations of behavior are a second way to infer self-concept, although the self is multi-dimensional and complex. The observer's biases may well affect his observations. The observation should focus upon the child's objective behavior

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98 Bert I. Greene and Wallace LaBerne. Educational Implications of Self-Concept Theory. (Pacific Palisades, California: Goodyear Publishing Co. Inc., 1969) p. 9.

99 C. R. Rogers. Client Centered Therapy: It's Current Practice, Implications and Theory (Boston: Houghton Mifflin Co., 1956) p. 494.

100 Greene, 1956, p. 12.

and should describe what is seen.[101]

Rogers and Allport[102] both advocate the individual should be believed when he reports about himself. Sarbin and Rosenberg concluded from research in 1955 that the self-report was useful in getting at meaningful self-attributes quickly and with minimum effort. Strong and Feder state "every evaluative statement that a person makes concerning himself can be considered a sample of his self-concept."[103]

The major criticism of the self-report is that it is only what the individual is willing to reveal to someone else. Several variables affect the self-report:

1. the students familiarity with the items,
2. a response pattern,
3. social desirability of a response,
4. clarity of the subject's awareness,
5. the ability of the subject to clearly communicate,
6. the cooperation level of the subject,
7. the degree the subject feels free of threat,
8. social expectancy,
9. the situational and methodological factors.[104]

(Wylie 1961, Silman, 1968, Halburn, 1965, Purinton, 1965, Combs and Soper, 1957)

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101 Purkey, 1970, pp. 58-59.

102 D. H. Cohen and V. Stern, Observing and Recording The Behavior of Young Children. (N.Y.: Bureau of Publications, Teachers College, Columbia University, 1958).

103 Shirley, 1977. p. 78.

104 Purkey, 1970. pp. 58, 62.

Used sensitively and with other evidence, however, Purkey believes self-reports offer valuable information.

At times quasi-projective techniques are used to aid observations. There are structured interviews with open ended questions , student written autobiography, complete interest records, participation in simulated situations, make up stories, draw, and complete sentences.[105]

> "In general self-concept measures that have been longitudinal have demonstrated moderate stability over time. Engel measured a group of sixth and eighth grade students for self-concept. Two years later she repeated the measurements. The stability was .53. A ten-day test-retest study produced a stability of .68. Kelly found self-consistency to be .30. This was a statistically significant, moderate correlation." [106]

The greatest difficulty in measuring self-concept results from the fact that each person's self-concept is private, personal and not directly observable.

> "There have been almost as many measuring devices as there have been self-concept studies." [107]

Wylie cited almost 200 instruments that had been employed through 1959. More have been developed since. Little is known about the reliability, validity, or normative data of many of these instruments.

Difficulty also is encountered because self-concept is conceptualized in a variety of ways. Different studies measure different aspects of self-concept and then report how

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[105] Purkey, 1970, p. 64.

[106] Samuels, 1982, p. 79.

[107] Purkey, 1970.

they correlate with something else. The vocabulary level of the instructions, the mechanics of the answer sheet, all limit the testable population. Since each self-concept is unique, finding a universal standard test is difficult.

Some of those tests developed are:

The Self-Esteem Inventory 1967
Children 8-10

The Bledsoe Self-Concept Scale 1967
3rd - 8th grade
30 trait descriptive adjectives

The Self-Appraisal Scale 1967
24 items, tested for intelligibility
to 5th grade

How I See Myself Scale 1958-67
40 - 42 items on a 5 point scale

Q Sort 1963
Subject sorts self-reference statements (70 - 150) in to piles along a continuum of appropriatness of self description from the most like him to least like him

Semantic Differential
Sets of polar opposite adjectives, i.e., happy-sad, hard-soft; the concept to be measured is placed at the top of the scale; the subject checks a box or line between boxes to indicate attitude

Tennessee Self Concept Scale 1964

Psychological Inventory 1956

Piers - Harris Children's Self-Concept Scale 1969

Coopersmith Self-Esteem Inventory
Self-report questionnaire

These standardized self-inventories require the subject to give information about himself, what he likes, dislikes, what emotional reactions he has in certain situations, whether he admires or condemns certain public figures, etc.

The self inventory blank is valuable because it gives below the surface appearance to tap the individual's own personal experience and feelings.

The tests are convenient to give because they do not require a group of raters or interviewers. The disadvantage is the person tested does not always understand himself and may not give an accurate report or can falsify the answers if he wants to cover up feelings.[108]

Summary of the Literature Search

A survey of the literature in the area of cross-age tutoring indicated numerous projects in education using this method to individualize instruction, to improve the skills of tutees, and/or to improve the skills and/or self-concept of the tutors. Unfortunately, although there was a great deal of enthusiasm from parents, teachers, and students that these projects were successful, only limited measurable research was conducted to establish this success.[109,110,111] Studies which were designed to measure the results of the tutoring experience primarily used school age children both

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108 Floyd L. Ruch. Psychology and Life, (Ill: Scott, Foresman & Co., 1963) pp. 151-152.

109 Annandell Lamb. "Tutoring the Handicapped." National Elementary Principal, (Sept./Oct. 1976), pp. 43-46.

110 Kathleen Bonie, et.al. "Slow Learners Can Be Tutors." Slow Learner Workshop, (Oct. 1977).

111 Linda Smith and Isobel Pfeiffer. "Cross-Age Tutoring for the EMR Child." Education and Training of the Mentally Retarded, (Feb. 1977).

as tutors and tutees.[112,113,114] Achievement results were primarily measured by achievement tests. Student tutors usually tutored the younger child in a particular subject or skill. The majority of the studies involved the teaching of an academic skill common to both students. Achievement gains by the tutor in that subject may well have been affected by additional practice and study. Those studies involving low self-concept and/or low achieving academic students as tutors were designed in this manner, i.e., with a poor reader teaching a younger poor reader. A few studies included normal preschool children. Several studies involved handicapped students both as tutor and tutee.

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112 R. Williams and S. Cole. "Self-Concept and School Adjustment." Personnel and Guidance Journal, (Jan. 1968). pp. 478 - 481.

113 W. N. Durost (Ed.) Metropolitan Achievement Tests Manual, (New York: World Book, 1959).

114 William Fitts. Self-Concept and Performance, (Los Angeles, CA: Western Psychological Services, 1972), pp. 26-29.

CHAPTER THREE

Methodology

Background of This Study

The purpose of this study was to statistically assess changes in self-concept as reflected by The Piers Harris Self-Concept Scale, and overall achievement, as reflected by grade point averages, of upper elementary age tutors who experienced tutoring a young preschool handicapped child in a non-academic skill. The study proposed to measure the effect of the length of time the tutor participated; the tutor having control over the planning, executing, and evaluating the teaching sessions; the receipt of written praise for teaching performances; and the amount of progress the tutee made. The study also proposed to examine in particular the amount of change which might occur in self-concept and/or achievement of tutors who were initially low in either or both. The study was also interested in the similarity between teacher comments and evaluations as compared to statistically analyzed test measures.

The study was unique in that the skills taught by the tutors were not related to their academic subjects. The skills the tutees needed to learn were not related to the tutor's academic subjects. The effect of self-concept

changes upon academic performance could be directly measured. No practice effect was present. The procedures for this study are outlined in this chapter as follows: Subjects, Instrumentation, Research Design, Procedure, and Analysis of Data.

The Population and Sample Subjects:

The subjects for the study were selected from those students within the total membership of the fifth and sixth grades of the John C. Wood Elementary School who expressed a desire to tutor and who were given written permission by their parents as well as approval by their teachers to tutor (See Appendix A). The entire group was then alphabetized and numbered sequentially. In this order the group was divided into two equal subgroups through the use of the Table of Random Numbers.[1] A pencil was blindly dropped on the Table. The number which the point of the pencil touched was used as a starting point. The first number identified the page of the table to be used, the next two digits the row on that page and the next two digits the column. Starting at this point, a sample of twenty students was drawn reading the numbers from left to right down the page. There were forty students participating. The first twenty students chosen were designated the treatment group. The remaining twenty were the control group.

The treatment group was then randomly assigned to three sub categories. The treatment group was placed in

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[1] Roger E. Kirk. Introductory Statistics, (Monterey, California: Brooks/Cole Publishing Company, Inc., 1978), pp. 404-405.

alphabetical order and sequentially numbered. The Table of Random Numbers was used in the same manner as in the selection of the original treatment group. Ten students were randomly assigned to the first sub-treatment group. The remaining ten comprised the first sub-control group. The treatment group was again considered as an entirety. From the total alphabetized list a second sub-treatment and control group were chosen using the Table of Random Numbers. This same method was used to select a third sub-treatment and control group.

These three groups were formed to evaluate the effect upon the tutor's self-concept and/or academic performance under three separate conditions:

1. The student tutor planned, executed, and evaluated each of his tutoring sessions.

2. The tutor was assigned two twenty minute sessions a week with his tutee or three half-hour sessions a week.

3. The tutor received written positive comments about his tutoring performance each time he worked with his tutee.

The treatment group of twenty student tutors was comprised of: ten boys and ten girls. There were ten fifth and ten sixth grade students. Six of the sixth grade students were girls, four boys. Four of the fifth grade students were girls, six boys. The mean age was eleven. Three students were twelve years of age, thirteen were eleven

years of age, four were ten years of age.

The control group of twenty students was comprised of nine boys and eleven girls. There were ten sixth and ten fifth grade students. Five of the sixth grade students were girls, five boys. Six of the fifth grade students were girls, four boys. The mean age was eleven. Three of the students were twelve years of age, nine were eleven years of age, eight were ten years of age. (See Table 1)

Table 1

Tutor Demographic Data

	Treatment (n=20)	Control (n=20)	Total (n=40)
Sex			
Female	10	11	21
Male	10	9	19
Grade Level			
5	10	10	20
6	10	10	20
Age in Years			
10.0	4	8	12
11.0	13	9	22
12.0	3	3	6

The tutee population was comprised of the total handicapped preschool population, sixteen children between the ages of thirty and fifty-six months. All of the children were placed in the class because they were developmentally delayed. Only two children were non-ambulatory. Eleven of

the preschool children were boys, five girls. Five of the boys were four years of age, six of the boys were three. Two of the girls were four years of age, one of the girls was three years of age, two were two years of age. Two three year old boys had Down's Syndrome, the one three year old girl was aphasic and apraxic. Sign language was being used to help her. One two year old girl was partially paralyzed on one side, of normal intelligence and physically attractive. The other two year old girl was very frail, possibly hearing and visually impaired, without speech, but with high fine motor skills and cognitive ability. She was learning to crawl while holding her head up. One three year old boy had athetoid cerebral palsy. He moved by hopping using all four limbs. One other three year old boy wore a helmet and was very physically active in a typical male role pattern. He had been thrown through the dashboard of an automobile at two weeks of age during an accident. Three of the four year old boys and one three year old boy demonstrated speech and language problems. Two of the four year old girls and two boys demonstrated what might be defined as "learning problems." One four year old boy displayed emotional problems with acting out behavior. All of the children were receptive to working with different people, including the upper elementary students (See Table 2).

Two preschool teachers, three preschool classroom aides, and two teachers of regular fifth-sixth combination classes participated in the study.

Table 2

Tutee Demographic Data

	Female (n=5)	Male (n=11)	Total (n=16)
Age in Years			
2.0	2	0	2
3.0	1	6	7
4.0	2	5	7
Type of Handicap			
Aphasic/Apraxic	1	0	1
Automobile Head Injury	0	1	1
Cerebral Palsey	0	1	1
Downs Syndrome	0	2	2
Emotionally Disturbed	0	1	1
Hemiplegic	1	0	1
Learning Disabilities	2	2	4
Multiply Handicapped	1	0	1
Speech and Language	0	4	4

The preschool children were matched to their tutor(s) using the Table of Random Numbers. The list of preschool children was alphabetized and numbered. This list was selected by random number and matched in alphabetical order to the tutor list. Those students working with more than one student (four) were selected by random number.

Instrumentation for the Study

The following intruments were selected as a means of gathering and recording data for this study.

1. The Piers-Harris Children's Self-Concept Scale (The Way I Feel About Myself)

The instrument used to measure self-concept was The Piers-Harris Children's Self-Concept Scale. It is a self-

report instrument designed for use with students in grades 3 - 12. It consists of 80 first-person declarative statements. The child responds by marking "yes" or "no." One half of the items are worded to indicate a positive self-concept and half to indicate a negative self-concept. It is possible for the items to be read to the student. This method keeps the students working together and aids in helping each student to clearly know what the item says. The test takes only 15 to 20 minutes to administer but there is no time limit. It is hand scored with a key. Norms are provided for grades 4 - 12.

Ellen Piers, who developed the test, describes the Piers-Harris as a scale based on the definition of self-concept as "an organized configuration of perceptions of the self which are admissible to awareness."[2] It is assumed the set of self attitudes are relatively stable self descriptions and evaluations. The scale was designed with items scored in a positive or negative direction to reflect the evaluation dimension.[3] It was standardized on 1,183 children in grades 4 - 12, in one Pennsylvania school district.[4]

P.M. Bentler reviewed the scale in the Buros 7th Mental Measurements Yearbook. He indicated that there appear to be no sex or grade differences in means. He states the internal

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[2] C.R. Rogers. Client-Centered Therapy, (Boston: Houghton Mifflin, 1957) in E.V. Piers, The Piers-Harris Monograph #1, (Nashville, Tenn: Counselor Recordings and Tests, 1951).

[3] P.M. Bentler. "The Piers-Harris Children's Self-Concept Scale" in Buros, The Seventh Mental Measurements Yearbook, 1, (New Jersey: Gryphon Press, 1972).

[4] Bentler, 1972.

consistency of the scale ranges from .78 to .93 and retest reliability from .71 to .77. He also reports this correlates with similar instruments which are in the mid sixties. He indicates teacher and peer validity coefficients are .40.[5] He felt the author of the test was careful to control correlation between the scale and social desirability. He judged the correlations with a measure of anxiety to be quite high, -.54 to -.69.[6]

In his review of the instrument, Bentler recommends the scale for studies of change in self-concept. The use of a control group is recommended since scores tend to increase slightly with re-testing.[7] The manual indicates at least a 10 point score difference is required before a change in self-concept can be considered statistically reliable.[8]

Wylie reviewed the Piers-Harris instrument and several other self-concept measurement tests for children. In her book The Self Concept she rates the Piers-Harris as a promising research tool among those available.[9]

Rick Crandall reviewed the Piers-Harris in Measures of

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[5] Bentler, 1972.

[6] Bentler, 1972.

[7] J.B. Rotter. "Generalized Expectancies for Internal Versus External Control of Reinforcement", Psychological Monographs, 80, 1966, 609.

[8] E.V. Piers. Manual for the Piers-Harris Children's Self Concept Scale (The Way I Feel About Myself), (Nashville, Tenn.: Counselor Recordings and Tests, 1969).

[9] R.C. Wylie. The Self-Concept, Vol. 1, Rev. Ed. (Lincoln: The University of Nebraska Press, 1974).

Social Psychological Attitudes, Rev. Ed. He highly recommended it as a scale for children.[10]

Shreve found the Piers-Harris to be one of the better tests available when judged by the criteria found in Technical Standards for Educational and Psychological Tests.[11]

Cox used subjects in grades 6 - 9 from 97 families in a 1966 study. Correlations between the Piers-Harris and teacher and peer ratings of socially effective behavior were .43 and .31. The correlations with super ego strength were .40 and .52.[12]

For the purposes of this study, the test was administered to the total group of fifth-sixth grade volunteers at one setting in the cafeteria of the school. Pencils were provided. The two preschool teachers explained the purpose of the test as a part of a study by the school to see if students serving as tutors was a useful experience that should continue as a part of the regular school activities. The teachers stressed that for the school to determine the

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10 R. Crandall. "Measures of Self-Esteem" in J.P. Robinson and P.R. Shaver. Measures of Social Psychological Attitudes, Rev. Ed. (Ann Arbor: University of Michigan Institute for Social Research, 1973).

11 E.E. Shreve. A Critical Analysis and Evaluation of Evidence Regarding the Reliability and Validity of Four Selected Measures of Self-Concept. Unpublished doctoral dissertation, U. of SC, 1973.

12 E.V. Piers. The Piers-Harris Children's Self-Concept Scale Research Monograph #1, (Nashville, Tenn: Counselor Recordings and Tests, 1977).

value of tutoring in the preschool it was very important that each of them understand each question and answer it as truthfully as they were able to do. The students were seated far enough apart that each student was assured privacy. One teacher read the questions. The other teacher answered questions about what words meant. The word "discipline" was an example of an unfamiliar word. Several students were unsure how to reply to a question about siblings when they had none.

By reading the questions aloud twice as the students followed in their test books, the students remained together, did not discuss the test among themselves, and had an opportunity to ask questions about an item before responding to that item. The testing took forty-five minutes. Neither the students nor the preschool teachers knew the identity of the tutors. The test was repeated in this manner at the end of the tutoring experience. (See Appendix G)

2. Grade Point Average

Students in the Fairfax County Public Schools, at the fifth and sixth grade level, are given letter grades. The grades considered in the grade point average included those in math, reading, language, spelling, science, and social studies. The letter grades were converted into a five point scale, 0 - 4. An A was a 4, a B was a 3, a C was a 2, a D was a 1, and an F was a 0. When the teacher used a (+) or (-) the points were adjusted up or down by one-half point as was appropriate. The grade points, as converted, were totalled and averaged. The grades for the grading period prior to the initiation of the tutoring experience were compared with the

grades from the grading period following the tutoring experience.

Grade point average was selected as the measure of academic achievement because the grade has a closer relationship to the actual material covered and the student's performance with that material than a general achievement test covering what is hoped to be subject matter that is universally taught. Further, the student tends to rate himself against classmates and the standards of his school and community. In 1972 W.H. Fitts conducted research showing a stronger correlation between grade point averages and the Tennessee Self-Concept Scale than between the scale and nationally standardized achievement tests.[13]

Both the pre and post grades and the Piers-Harris pre and post tests were not scored or recorded until the tutoring experience was finished. When the last tutoring session was completed the Piers-Harris tests were scored by hand using the key provided. Raw scores were recorded for pre and post tests. When school closed the student records were used to record pre and post grades. Notes were taken regarding comments about the student's behavior. The general teacher comments were also noted.

3. The Classroom Teacher Evaluation Forms (See Appendices B and C)

Before the students were asked if they would like to participate in the tutoring program, the two fifth/sixth

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13 W.H. Fitts. The Self-Concept and Performance, (LA: Western Psychological Services, 1972), p.29.

teachers and the principal were asked to define behaviors they felt indicated to them that the student demonstrated a positive self-concept and a positive academic performance. The teachers and principal stated these behaviors in individual conferences with the researcher. The statements were then combined and presented to both teachers, the principal, and two additional resource teachers. Through discussion consensus was reached as to those statements that appeared acceptable to all five educators. These statements were then printed on summary sheet for each teacher with the names of all her student volunteers listed. Prior to knowing the names of those students who would be tutoring, the teachers were asked to judge each student on a scale of 0 - 4 regarding his self-concept and academic performance. The teachers were asked to do this again at the end of the tutoring experience.

4. Tutor Questionnaires
(See Appendices D and E)

Before beginning their actual tutoring experience the tutors came to the preschool classrooms to meet their student, become somewhat acquainted with him/her as a person and with the rooms in the preschool and personnel in the preschool. The tutors then attended two thirty minute training sessions. During the first session they were told about their child and his/her needs or special problems. During the second session they were shown the individual bin for their materials, where they would work, and a chart where they would have a mail box to receive assignments, directions

and comments. They could also use this box to communicate with the preschool staff. Each box was individual and separate from all other tutors' boxes so that messages could be confidential.

The tutors met with their student for two weeks with a preschool classroom aide assisting with positioning the child, presenting the material, and communicating with the child. The aide demonstrated as well as explained. Each tutor received a written lesson plan and specific materials to work with his child. After the first tutoring session with the aide assisting, the tutor was asked to complete a short questionnaire. At the end of the entire tutoring experience the tutors were again asked to complete a short questionnaire. Both questionnaires concerned the tutor's feelings about his tutee and the tutoring experience. The questionnaires were completed during a twenty minute session with all the tutors present under the supervision of two aides.

The two preschool teachers and the three aides scored each statement of the questionnaires as to positive or negative. The positive points were then added to give a total score. The marking of the questionnaires was compared. An agreement of 3 out of 5 people as to the score, determined the score for each tutor.

5. Preschool Teacher Rating of Tutee Progress
(See Appendix F)

Each preschool child is developmentally evaluated when he enters the preschool program, at the start of each year,

and twice during the year. A chart is completed for each child and his progress recorded. The chart is divided up into the developmental areas. Just prior to the initiation of the tutoring experience, the preschool teachers evaluated each child in the area(s) in which he would be tutored. The child was again evaluated at the end of the tutoring experience. The number of months gained by the preschool child was recorded. The growth the child made was translated to the tutor on a scale of 1 - 4. This scale was marked by the preschool teachers based on the expectations for the child and his developmental growth.

Research Design Selected for the Study

A Pre-test - Post-test Control Group Design was used. This design was selected because of the limited number of subjects available. The design needed to be strong while providing the largest number of subjects per cell. Campbell and Stanley[14] recommend this design since it provides high internal validity by controlling for all seven rival hypotheses. History is controlled since general historical events that might have produced a difference in one group would also produce a difference in the other group. Maturation and testing are controlled in that they are manifested equally in the treatment and control groups. Instrumentation, in the use of the self-concept test, is

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[14] Donald T. Campbell and C. Stanley. Experimental and Quasi-Experimental Designs for Research, (Chicago: Rand McNally College Publishing Company, 1963).

controlled by the responses being collected simultaneously to a fixed printed instrument. Regression is controlled as far as mean differences are concerned, no matter how extreme the group is on pre-test scores, since the treatment and control groups are randomly assigned from the same pool of students. The treatment group should regress as much as the control group. Selection is ruled out as an explanation of the difference since randomization assures group equality, Mortality effects are visable. To avoid sampling bias all the selected students who completed both pre-test and post-test were used.

Although in using this design the pre-test may affect the population and thus make generalizing to a wider population questionable, consideration should be given to the similarity of the instrument format to regular testing that is routinely carried out in most educational settings. Since the school involved was a regular elementary school with a population made up of a mixture of children from a neighborhood representing a cross section of social and economic groups similar to other public schools in the area, the study offers some valid generalization to other schools within the system of which it is a member. Although there is some possibility of interaction between selection and the experimental treatment, reactive differences caused by the subjects knowing they were part of a research study should not be present. Similar interactions of students had taken place in this school and other schools within the system. No unusual or non-staff personnel were involved. Within this

school system some valid generalization should be possible.

Figure 1

Research Design

Pre - test Post - test
Control Group Design

RO 1	X	O 2
RO 3		O 4

X - exposure to an experimental variable or event

O - process of observation or measurement

R - random assignment to treatment groups

Left - to - right indicates temporal order.

Letters vertical to each other are simultaneous.

Procedure

The following lists the procedure steps in chronological order:

1. Permission to do the study within a Fairfax County Public School was requested in writing with a formal proposal submitted to the Office of Research and Testing.
2. Permission was secured.
3. The principal within the elementary school selected reviewed the proposal and approved the study.
4. The area superintendent also reviewed and approved the study.

5. The tutoring project was explained to the two fifth/sixth grade teachers and the preschool teachers and aides. Their cooperation was secured.

6. Students in the two fifth/sixth grades were invited to visit the preschool classrooms as a total class.

7. Students in the two fifth/sixth grade classrooms were invited to tutor a child in the preschool.

8. The fifth/sixth grade teachers, principal, two resource teachers and the researcher developed the summary sheet for teachers.

9. Students who expressed an interest in tutoring took home a permission slip for parental approval. (See Appendix A)

10. When all the permission slips were returned an initial testing period was set up in the cafeteria for the administration of The Piers-Harris Children's Self-Concept Scale. All of the students were tested at one sitting. They were seated apart so that they would have some privacy. Pencils and test books were provided. The students were asked to circle "yes" or "no" after each question. One preschool teacher read each question aloud twice. The other teacher answered questions about word meanings. The students were able to stay together through this method. Both teachers tried to be certain each student understood the question. The testing session required forty-five minutes.

11. The two fifth/sixth grade teachers marked the initial teacher summary sheet for all the students.

12. The 20 tutors were randomly selected from the group of 40 volunteers. They were randomly assigned to the three sub

groups.

13. The preschool children were assigned randomly to the tutors.

14. The time the student could leave class was determined by his classroom teacher. This time was non-instructional time during which he chose to tutor rather than participate in another activity (i.e., newspaper, choir, computers, etc.).

15. The activity the preschool child would do with each student tutor was determined by what the preschool class schedule presented at the time the tutor was available.

16. Preschool teachers set up mailboxes and supply boxes as well as work space for each tutor.

17. Aides and teachers discussed the goal for each preschool child and planned the first two weeks activities. These were written individually for each tutor on a file card (3x5). The first card was placed in the tutors mail box. Materials for that lesson were placed in that tutors supply box.

18. The tutors began.

They first came to meet their preschool child and to become acquainted with the preschool rooms. The second time they came, they were individually told about their child, his needs, his goals. The third time they came, they were shown their workspace, their mailbox, their lesson plan, and their supply box. These three meetings took place within one week. The following week the tutors began coming on a regular basis. An aide met with them and their child the first two weeks. Each day a new lesson and materials were provided. After the first day of actual tutoring the tutors were asked

to fill out a short questionnaire about their feelings for their job and their student. This was accomplished in a brief meeting of all the tutors together. These questionnaires were not scored until after the tutoring experience was over.

19. During these two weeks of tutoring, those tutors selected for the "praise" sub group, began to receive written positive comments about their teaching. These messages were placed in their mailbox. The other tutors received no comment. This continued throughout the tutoring experience.

At the end of the two weeks those students selected to teach independently were encouraged to plan the lessons for each day with the goal for that student in mind, to choose the materials, and to evaluate the lesson and how both he and the tutee performed. They shared their lessons with their aide helper. Unless the student tutor was totally missing his student's needs, he was not given suggestions. Those given were very general, i.e., "We have some new materials you might want to look over for ideas." These materials were chosen to meet the preschoolers needs but the tutor selected from them independently. Those students planning their own lessons were given 3x5 cards. They placed the card in their mailbox and selected their materials prior to the day they were to meet their student. (Times available: lunch break, right after school, etc.) After they taught their lesson, they wrote their evaluation on the 3x5 card and left it in their mailbox.

The control students continued to receive lesson plans

and materials from the preschool teachers. The lesson plans were left in their mailbox.

20. The original schedule for the tutors was set up so that one-half of the tutors came twice a week for twenty minutes and one-half three times a week for thirty minutes.

21. The tutoring experience was conducted over two grading periods. It began as soon as the fifth/sixth grade teachers had completed their grades for the second period. It continued until school ended.

22. During the last week of school tutors completed their final tutoring session. After this last session they were given another questionnaire to complete as a reaction to their tutoring experience. This questionnaire was completed as a total group at one session.

23. The last Friday before school ended on Monday, all the participants were assembled as a group to again complete the Piers-Harris. The same procedure was used as had been used during the pre testing session.

24. The last week of school the fifth/sixth grade teachers completed the final teacher summary. The preschool teachers evaluated the preschool children and shared their progress individually with the tutors two weeks before the last tutoring session. This allowed the tutors time to know how their student was progressing on a formal basis prior to the second self-concept test session and prior to final papers, tests, etc. being due in their own classroom.

25. The Tuesday after school ended grade point averages for both the pre and post grading period were recorded. Notes

about behavior and citizenship were recorded. Tutors' pre and post questionnaires and the fifth/sixth grade teachers' pre and post summaries were examined.

26. Piers-Harris tests were scored for both the pre and post sessions.

Analysis of Data

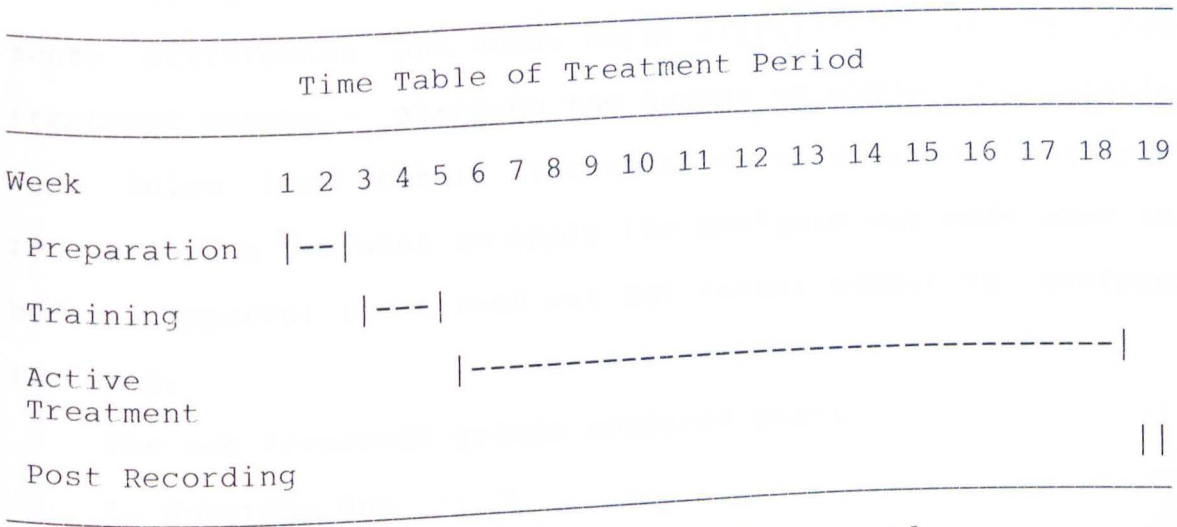
The Piers-Harris Tests were hand-scored using a key sheet with holes appearing where the appropriate response ("yes"/"no") should appear. Prior to scoring the tests were divided into two stacks (treatment subjects / control subjects). The difference between each student's first and second total test score was computed. These difference scores were added for each group and the means computed. These were compared using a t test, correlations and regression analysis.

The grades for each participating student were recorded for the second and fourth grading periods in math, reading, language, spelling, science, and social studies. These grades were transformed into numerical equivalents.

A = 4 B = 3 C = 2 D = 1 F = 0

A plus or a minus on a letter grade was assigned one-half a point (0.5). The grade average for each student for each grading period was found. A group mean was computed for the treatment group and the control group. These means were compared using a t test, correlations, and regression analysis.

Figure 2



Week One: Permission slips sent out and returned

Week Two: Classroom teachers complete initial evaluation scale
All students with permission tested on Piers Harris
Grades recorded for all students with permission
Students divided into two equal groups using Table of Random Numbers
Preschool students matched to tutors

Weeks Three to Five:
Tutors and tutees meet
Space for working assigned
Materials location and organization explained
Problems of tutees described and methods of helping them individually demonstrated
Tutee progress recorded in the areas to be tutored
Lessons planned, material furnished, teaching techniques modeled
Tutors observed teaching
Mail boxes for each tutor established
Tutors complete initial attitude questionnaire
Tutors divided into sub control and treatment groups using the Table of Random Numbers
Attendance recorded weeks Four and Five

Weeks Six to Eighteen:
Tutoring sessions in progress (Attendance recorded)
Final Piers Harris Tests given to total population
Classroom teachers complete final summary sheets
Tutors completed final questionnaire

Week Nineteen, Two Teacher Work Days:
Grades recorded for fourth period
Preschool Teachers complete tutee progress sheets first noting and recording final progress in the area tutored
Number of sessions taught by each tutor recorded

Multiple Linear Regression was used to compare the test score differences and grade point differences of the sub treatment groups. Although the number of subjects available was below the numbers recommended when using multiple regression, a decision to apply the analysis was made when it became apparent the t test was not robust enough to analyze the data.

The sub treatment groups compared were:

1. Subgroup One

   Tutors who received praise of their tutoring in writing from a preschool teacher.

   Tutors who did not receive written praise.

2. Subgroup Two

   Tutors who planned, executed, and evaluated their own lessons.

   Tutors who taught lessons planned by the teacher using materials she suggested.

3. Subgroup Three

   Tutors who taught a longer time.

   Tutors who taught a shorter time.

   Although tutors originally were scheduled 40 or 90 minutes a week, absences caused changes in the actual amount of time each tutor spent with his child. The third subgroup comparison was therefore not possible. Instead attendance was recorded. A total teaching time score was computed for each tutor.

4. Subgroup Four

   Tutors with initial self concept scores below the mean

Tutors with initial self concept scores above the mean

5. Subgroup Five

Tutors with grades below the mean.

Tutors with grades above the mean.

The Piers-Harris difference scores were listed for each tutor. These were added together as was appropriate for each group, the means were computed and compared.

The pre and post grade point averages were listed for each tutor. The difference scores were computed. These were added together as was appropriate for the membership of each group. The means were computed and compared.

Summary

A Pre-test / Post-test Control Group Design was used to investigate the effect of tutoring preschool-age handicapped students upon the self-concept and academic achievement of fifth and sixth grade elementary students. Forty fifth/sixth grade students were randomly assigned to treatment and control groups. The twenty students in the treatment group served for sixteen weeks as tutors to sixteen preschool handicapped children age two to five years. This treatment group was subdivided into two different sub treatment and control groups. This organization of the subjects made it possible to study the effect of praise upon the tutor's self-concept and/or academic performance, as well as the effect of the tutor planning, teaching, and evaluating of his/her own teaching sessions. The study also examined the effect upon self-concept and academic progress of the number of lessons

the tutor taught, the initial attitude of the tutor toward his tutee, tutor observed progress made by the tutee, and initial low self-concept and/or low academic performance. The classroom teacher's estimate of the tutor's academic performance and self-concept was compared to the student's estimate of his/her self-concept and/or academic performance.

Gains made between the pre and post administration of The Piers Harris Children's Self-Concept Scale and as reflected by grade point averages provided the basic data for this study. An attitude questionnaire was administered to the tutors at the beginning and end of their teaching experience. The fifth/sixth grade classroom teachers completed pre and post evaluation forms concerning the academic performance and self-concept of both treatment and control group members. The preschool teachers completed a rating scale for tutee progress in the area(s) in which he was tutored. The data were analyzed using a two-tailed t test, Pearson Product Moment correlations and multiple linear regression.

CHAPTER 4

Report of Research Findings

The purpose of this research was to determine whether the self-concept and academic performance of an upper elementary student would be modified after he tutored a preschool age handicapped student.

Pre and post measurements were obtained from two groups of fifth/sixth grade students. The differences between these pre and post scores were compared for the two groups using a two-tailed t test. Multiple regression analysis was applied when the t test was not robust enough to analyze the data. A 0.05 level of significance was chosen.

Findings of the Investigation

The Piers Harris Children's Self-Concept Scale was administered to forty fifth/sixth grade students as a pre and post measurement. Twenty of these students served in the control group, twenty in the treatment group. Grade point averages were recorded for the grading periods coinciding with the beginning and ending of the study. Student questionnaires and teacher rating scales provided additional information.

Hypotheses Formulated to Facilitate the Investigation

Fifteen hypotheses were formulated to facilitate the investigation of both self-concept and academic performance by upper elementary students following their serving as tutors for preschool age handicapped children. The results of the statistical analysis of these fifteen hypotheses will be reported in this chapter.

1. Hypothesis One

Question One referred to that part of the data concerned with changes in self-concept:

Does interacting with a preschool handicapped child in the role of a tutor significantly change the self-concept of a fifth or sixth grade non-handicapped student? The results of The Piers Harris Children's Self-Concept Scale served as the measure of self-concept changes.

The research hypothesis was:

There will be a significant difference in the changes in self-concept scores between a treatment and control group, following a period of tutoring by the treatment group.

The Piers Harris Children's Self-Concept Scale has a maximum possible score of 80 points. The pre-test scores for the treatment group ranged from 45 to 78 with a mean score of 64.95 (S.D. 9.65). The post-test scores for the treatment group ranged from 43 to 78 with a mean of 67.75 (S.D. 8.62).

The control group's pre-test scores ranged from 49 to 78 with a mean of 63.10 (S.D. 8.45). The post-test scores ranged from 47 to 78 with a mean of 66.55 (S.D. 9.14). The

Table 3

Piers-Harris Results

	N	Mean	SD
Treatment			
pre	20	64.95	9.65
post	20	67.75	9.14
Control			
pre	20	63.10	8.45
post	20	66.55	8.62

mean gain score for the treatment group was 2.80 with a standard deviation of 8.51. The mean gain score for the control group was 3.45 with a standard deviation of 8.52. Correlations and regression were calculated with no significant results.

Table 4

Piers-Harris Gain Scores

	N	Mean	SD
Treatment	20	2.80	8.51
Control	20	3.45	8.52

Since the analyses did not reflect a change in self-concept at a level of probability that was statistically significant, the hypothesis:

> There will be a significant difference in the change in self concept scores between a treatment and control group following a period of tutoring by the treatment group,

must be rejected.

2. Hypothesis Two

Question two referred to that part of the data concerned with changes in grade point average:

Does interacting with a preschool handicapped child in the role of a tutor significantly change the academic performance of a fifh/sixth grade non-handicapped student as reflected by grade point averages?

The research hypothesis was:

There will be a significant difference in the changes in grade point average scores between a treatment and a control group following a period of tutoring by the treatment group.

The letter grades for each student were recorded for the grading period just prior to the initiation of the tutoring experience. These letter grades were then assigned numerical values of 0 - 4 (A = 4, B = 3, C = 2, D = 1, F = 0, +/- = 0.5). The number values were then averaged to give a Grade Point Average (GPA). The subjects recorded were math, science, language, social studies, reading, and spelling.

The grades for these subjects were again recorded for the grading period following the tutoring experience. These were again assigned numerical values which were averaged.

The grade range for the treatment group prior to the tutoring experience was 2.2 - 3.7; for the control group 2.0 - 3.8. The grade range for the treatment group following tutoring was 1.3 - 4.0; for the control group 1.1 - 4.0. The mean grade point average prior to tutoring was 2.92 for the treatment group and 2.86 for the control group. The mean

grade point average following tutoring was 2.83 for the treatment group and 2.57 for the control group. The mean score of the difference in grade point average following tutoring was - 0.09 (S.D. 0.45) for the treatment group and - 0.29 (S.D. 0.45) for the control group.

Table 5

GPA Results

	N	Mean	SD
Treatment			
pre	20	2.92	0.49
post	20	2.83	0.77
Control			
pre	20	2.86	0.56
post	20	2.57	0.91

The grade point averages for each group were compared by subtracting the pre-grade point averages from the post-grade point averages for each group. The mean gain score for the treatment group was - 0.09 with a standard deviation of 0.45. The mean gain score for the control group was - 0.29 with a standard deviation of 0.45.

Table 6

GPA Gain Scores

	N	Mean	SD
Treatment	20	-0.09	0.45
Control	20	-0.29	0.45

F-ratio 5.61 Probability 0.02

When multiple regression analysis was used to compare group membership, a significant effect was found. The dependent variable, GPA gain was predicted using three independent variables: initial teacher perception of self-concept, initial teacher perception of academic performance, and group membership. An F ratio of 5.61 with an associated probability of 0.02 resulted. An examination of the gain score means indicated the control group significantly declined in grade point average while the treatment group did not.

The hypothesis:

> There will be a significant difference in the change in grade-point average scores between a treatment and a control group following a period of tutoring by the treatment group,

may be accepted.

Table 7

GPA Gain Regression

Dependent Variable - GPA Gain RSQ = 0.475

Independent Variable	DF	SS	RSQ Change	F	Probability
Treatment vs Control	1	0.65	0.082	5.61	* 0.023
Pre Teacher Self-perception Rating	1	0.09	0.011	0.77	0.39
Pre Teacher Academic Performance Rating	1	1.39	0.17	11.9	* 0.0014
Regression	3	3.80		10.9	0.00
Residual	36	4.20			
Total	39	8.00			

* statistically significant

As the tutors worked with their young students several aspects of the relationship were examined. To study each aspect the treatment group of tutors was sub-divided into two equal groups of ten members each. One of these groups became a treatment group, one a control group. Hypotheses III, IV, VII and VIII relate to this condition as do questions III, IV, VII and VIII. Hypothesis V and VI compare the tutors on a continuous scale.

3. Hypothesis Three

Question three referred to that portion of the data concerned with locus of control:

Do changes in academic performance increase significantly when the tutor is given control of planning, evaluating, and executing his tutoring sessions?

The research hypothesis was:

There will be a significant difference in the changes in grade point average scores between a treatment and control group following a period of tutoring by the treatment group in which they have control of planning, executing, and evaluating the tutoring session.

The grade range for the experimental group prior to tutoring was 2.0 - 3.5, the control group 2.3 - 3.7. After tutoring the treatment group grades ranged from 1.3 - 4.0, the control group grades ranged from 2.0 - 4.0. The mean GPA for the treatment group prior to tutoring was 2.86, the control group was 2.97. The mean GPA for the treatment group following tutoring was 2.71, for the control group 2.87.

The change between the pre and post grades for each group was obtained by subtracting the pre from the post grades. The mean change in GPA for the treatment group was - 0.05 (S.D. 0.51), the mean change for the control group was 0.13 (S.D. 0.39).

Multiple regression analysis was used to explore the effect of locus of control on grade point average. The dependent variable, grade point average gain, was predicted using four independent variables: locus of control, the number of tutor sessions, the observed progress of the tutee, and the evaluation the teacher made of the tutor's self concept prior to the initiation of tutoring. The F ratio relating to locus of control was 0.42 with a probability of 0.53, which was not statistically significant.

The hypothesis:

> There will be a significant difference in changes in grade point average scores between a treatment and control group following a period of tutoring by the treatment group in which they have control of planning, executing, and evaluating the tutoring sessions,

must be rejected.

4. Hypothesis Four

Question four also referred to data concerning locus of control:

Do changes in self-concept increase significantly when the tutor is given control of planning, evaluating, and executing his tutoring sessions?

The research hypothesis was:

There will be a significant difference in the changes

in self-concept scores between a treatment and control group when the treatment group tutors are given control of planning, executing, and evaluating their tutoring sessions.

Prior to tutoring, the Piers-Harris Self Concept Scores ranged from 49 - 77 for the treatment group, and 45 - 78 for the control group. After tutoring, the scores ranged from 43 - 78 for the treatment group and 54 - 78 for the control group. The mean score for the treatment group prior to tutoring was 63.6, for the control group 70.1. Following tutoring, the mean score was 66.5 for the treatment group, 69.0 for the control group. The mean score reflecting the change following tutoring by the treatment group was 2.90 (S.D. 9.60); for the control group it was 2.70 (S.D. 7.79).

Multiple regression was used to analyze the data with the dependent variable being the change for each group on the Piers-Harris tests. The independent predictor variables were: locus of control, the number of tutor sessions, the observed progress of the tutee, and the teacher's prior evaluation of the tutor's self concept. The F ratio relating to locus of control was 0.003 with an associated probability level of 0.96. This was not statistically significant.

The hypothesis:

> There will be a significant difference in the changes in self concept scores between the treatment and control group when the treatment group tutors are given control of planning, executing, and evaluating their tutoring sessions,

must be rejected.

5. Hypothesis Five

Question five refers to the data concerned with the amount of time spent in tutoring:

Do changes in academic performance significantly change when the amount of time the tutor spends with his tutee increases?

The research hypothesis was:

There will be a significant correlation between grade point average gain and the amount of time spent with the tutee.

A regression analysis was performed using the GPA gain for the treatment group as the dependent variable and locus of control, the number of sessions taught by the tutor, observed progress of the tutee, and the change in the classroom teacher's evaluation of the tutor's self concept as the independent predictor variables. An F ratio of 4.68 resulted for the number of sessions taught by the tutor with an associated probability of 0.047. This was the only significant predictor of GPA gain for the treatment group. These predictor variables accounted for 38.8% of the variance of GPA gain.

The hypothesis:

> There will be a significant relationship in changes in grade point averages between a treatment and control group when the treatment group spends more time with the tutee,

may be retained.

Table 8

Treatment GPA Gain Regression

Dependent Variable - GPA Gain RSQ = 0.388

Independent Variable	DF	SS	RSQ Change	F	Probability
Tutee Progress	1	0.25	0.065	1.60	0.226
Sessions Tutored	1	0.72	0.191	4.68	* 0.047
Locus of Control	1	0.06	0.017	0.48	0.528
Pre Teacher Self-perception rating	1	0.44	0.117	2.87	0.111
Regression	4	1.47		2.38	0.098
Residual	15	2.31			
Total	19	3.78			

* statistically significant

6. Hypothesis Six

Question six also referred to data concerned with the length of time involved in tutoring:

Do changes in self concept significantly increase when the amount of time spent tutoring increases?

The research hypothesis was:

There will be a significant relationship between self concept changes and the amount of time spent tutoring.

A correlation of 0.128 was computed with an associated probability of 0.295. This was not statistically significant. Regression analysis was performed using gain in self concept scores as the dependent variable and locus of control, observed progress of the tutee, and the number of sessions taught

by the tutor as independent predictor variables. An F ratio of 0.248 for the number of sessions taught by the tutor resulted with an associated probability of 0.63. This was not statistically significant.

Using these two forms of analysis, there did not appear to be a statistically significant relationship between the change in a tutor's self concept and the number of sessions which he taught, therefore the hypothesis:

> There will be a significant relationship between self concept changes and the amount of time spent tutoring,

must be rejected.

In analyzing both hypotheses V and VI, the actual number of sessions per tutor was used on a continuous scale rather than forming two distinct groups.

7. Hypothesis Seven

Question seven referred to data involving praise of the tutors performance:

Do changes in academic performance significantly increase when the preschool teacher praises the tutor's performance through written comments?

The research hypothesis was:

There will be a significant difference in the changes in the grade point average between the treatment and control group when the preschool teacher praises the treatment group tutors' efforts through written comments.

The range of grade point averages prior to tutoring for the treatment group was 2.3 - 3.7, for the control group 2.0

- 3.7. After tutoring the grades ranged from 2.0 - 4.0 for the treatment group, 1.3 - 3.8 for the control group. The mean grade score for the treatment group prior to tutoring was 2.97, for the control group 2.86. Following tutoring the mean score was 3.03 for the treatment group , 2.62 for the control group.

Correlations were computed prior to the performance of the regression analysis. A correlation coefficient of - 0.35 with an associated probability of 0.068 was computed between grade point average gain and level of praise (higher values associated with lower level of praise). Regression analysis was performed using grade point average gain as the dependent variable with locus of control and level of praise as the independent predictor variables. An F ratio of 2.74 resulted for level of praise with an associated probability of 0.116. This was not statistically significant.

Since there was no statistically significant relationship between change in grade point average and level of praise, the hypothesis:

> There will be a significant difference in the changes in grade point average between the treatment and control group when the preschool teacher praises the treatment group tutor's efforts through written comments,

must be rejected.

Question VIII referred to changes in self concept related to written praise given by the preschool teachers.

8. Hypothesis Eight

Question eight also referred to the effect of praise

upon the tutor:

Do changes in self concept increase significantly when the preschool teacher praises the tutor's performance through written comments?

The research hypothesis was:

There will be a significant difference in the changes in self concept scores between a treatment and control group when the preschool teacher praises the treatment group tutors' efforts through written comments.

The group of tutors who received written praise demonstrated a range of gain scores for the Piers-Harris from - 5 to 20. The non-praised group demonstrated a range from -8 to 16. The mean gain for the praised group was 4.0 (S.D. 9.4), for the non-praised group 1.6 (S.D. 7.8). Four of the praised tutors demonstrated individual gains in self concept scores greater than 10 points, which is considered a significant measured change in concept by the authors of the test. These students made gain scores of 19, 20, 13 and 16. The correlation coefficient between self concept gain and level of praise was computed resulting in a score of -0.145 with an associated probability of 0.271 (higher values corresponded to lower levels of praise). A regression analysis was performed using self concept change as the dependent variable and locus of control and level of praise as the independent predictor variables. An F ratio of 0.392 for level of praise resulted with an associated probability of 0.54. This was also not statistically significant.

Although the mean gain for the treatment group was

larger than the control group, this difference was not statistically significant. However, individual tutors in the treatment group did show rather striking gains.

The hypothesis:

> There will be a significant difference in the changes in self concept scores between a treatment and control group when the preschool teacher praises the treatment group tutors through written comments,

must be rejected.

9. Hypothesis Nine

Question nine referred to the effect of the tutor having knowledge of the tutee's progress:

Do changes in academic performance significantly increase when the tutee makes progress observable to the tutor?

The research hypothesis was:

There will be a significant difference in the changes in the grade point average between a treatment and control group when the tutee makes more progress (observable to the tutor) than the tutees in the control group.

A correlation coefficient of 0.231 was computed between grade point average gain and observed progress of the tutee with an associated probability of 0.16. This was not statistically significant. A regression analysis was performed using grade point average gain as the dependent variable and locus of control, the number of sessions taught by the tutor, and the observed progress of the tutee as the independent predictor variables. An F ratio of 1.62 resulted for observed

progress of the tutee with an associated probability of 0.22. This also was not statistically significant.

The hypothesis:

> That there will be a significant difference in the changes in grade point average between a treatment and control group when the tutee makes more progress (observable by the tutor) than the tutees in the control group,

must be rejected.

10. Hypothesis Ten

Question ten also referred to the effect of tutee progress:

Do changes in self concept significantly increase when the tutee makes more progress (observable to the tutor) than the tutees in the control group?

The research hypothesis was:

There will be a significant difference in the changes in self concept scores between a treatment and a control group when the tutee makes more progress (observable to the tutor) than the tutees in the control group.

A correlation coefficient of 0.048 was computed between change in self concept and observed progress of the tutee with an associated level of probability of 0.72. This was not statistically significant. A regression analysis was performed using the self-concept gain score as the dependent variable and locus of control, number of session taught by the tutor, and observed progress of the tutee as the independent predictor variables. An F ratio of 0.019 resulted for observed progress of the tutee with an associated probability

of 0.89. This was not statistically significant.

The hypothesis:

> There will be a significant difference in the changes in self concept scores between a treatment and a control group when the tutee makes more progress (observable by the tutor) than the tutees in the control group,

must be rejected.

11. Hypothesis Eleven

Question eleven referred to students who initially demonstrated lower self-concepts:

Does the tutoring experience cause a significant change in the self concept of students who initially measured below the mean in self concept?

The research hypothesis was:

There will be a significant difference in the changes in self concept scores of students who initially measured below the mean on the self concept scale and other tutors in the treatment group.

A correlation coefficient of - 0.50 was computed between the pre test self concept scores and the resulting gains in self concept with an associated probability of 0.01. This was statistically significant.

The correlation indicates that the lower the pre test score, the higher the resulting self concept gain made by the individual tutor. The hypothesis:

> That there will be a significant difference in the changes in self concept scores of students who initially measured below the mean on the self concept scale and other tutors in the treatment group,

may be retained.

12. Hypothesis Twelve

Question twelve referred to students who initially demonstrated lower grade point averages:

Does the tutoring experience cause a more significant change in grade point average of students who initially measured below the mean in grade point average?

The research hypothesis was:

There will be a significant difference in the changes in grade point average of students who initially measured below the mean on grade point average and other tutors in the treatment group.

A correlation of 0.36 was computed between the pre grade point average and the resulting grade point average gain with an associated probability of 0.06. This was not statistically significant.

The hypothesis:

> That there will be a significant difference in the changes in grade point average of students who initially measured below the mean on grade point average and other tutors in the treatment group,

must be rejected.

13. Hypothesis Thirteen

Question thirteen compared the classroom teacher's perception of each student's self-concept with his own stated self-concept:

Does the evaluation of the tutor's classroom teacher reflect the same direction of change as the self concept

scale?

The research hypothesis was:

There will be a significant correlation between the classroom teacher's rating of the gain in the student's self concept and the gain reflected by the Piers Harris.

A correlation coefficient of - 0.087 was computed between the teacher's final rating of the tutor's self concept and the gain reflected by the Piers Harris with an associated probability of 0.41. This was not statistically significant.

The hypothesis:

> There will be a significant correlation between the classroom teacher's rating of the gain in the student's self concept and the gain reflected by the Piers-Harris,

must be rejected.

14. Hypothesis Fourteen

Question fourteen referred to the initial tutor attitude toward his tutee:

Does the initial attitude the tutor has toward his preschool student significantly affect the degree of change in his grade point average?

The research hypothesis was:

There will be a significant changes in grade point average scores of students who initially judged their preschool child and the aspect of teaching him positively.

Unfortunately these data were difficult to analyze since the initial attitudes of all the tutors were positive and very similar. The high score on the questionnaire was 10 and the low score was 7. The mean score was 9.5. The total

possible score was 10.

A correlation coefficient of - 0.138 was computed between the tutor's initial attitude toward his student and the tutor's final grade point average with an associated probability of 0.298. This was not statistically significant. A regression analysis was performed using the grade point average gain as the dependent variable and the tutor's initial attitude toward his tutee and the class-room teacher's estimate of the tutor's academic ability as independent predictor variables. An F ratio of 0.502 resulted for the tutor's initial attitude toward his tutee with an associated probability of 0.398. These two predictor variables accounted for 40% of the variance of the grade point average gains. Neither the F ratio nor the Pearson correlation coefficient were statistically significant.

Since neither analysis produced significance, the hypothesis:

> That there will be a significant change in grade point averages for tutor's who initially judge their preschool child and the aspect of teaching him positively,

must be rejected.

15. Hypothesis Fifteen

Question fifteen also referred to the tutor's initial attitude toward his tutee:

Does the initial attitude the tutor has toward his preschool student significantly affect the degree of change in his self concept scores as measured by the Piers Harris test?

The research hypothesis was:

There will be a significant change in self concept scores as measured by the Piers Harris test of students who initially judged their preschool child and the aspect of teaching him positively.

A correlation coefficient of - 0.348 was computed between the tutor's gain score on the Piers Harris Children's Self Concept Score and the tutor's initial attitude toward his student with an associated probability of 0.066. This was not statistically significant. A regression analysis was also performed using the Piers Harris gain score as the dependent variable and the tutor's initial attitude toward his student and the classroom teacher's initial estimate of the tutor's self concept as independent predictor variables. An F ratio of 0.83 resulted for the tutor's attitude toward his student with an associated probability of 0.19. This was not statistically significant. The two predictor variables accounted for 34% of the variance of the Piers Harris gain score.

Since neither analysis produced significance, the hypothesis:

> That there will be a significant change in self concept scores as measured by the Piers Harris test of tutor's who initially judged their preschool child and the aspect of teaching him positively,

must be rejected.

Other Findings

During the analysis of Hypothesis I, correlation coefficients were computed prior to the performance of the

regression analysis. The correlation coefficient between the Piers Harris pre and post test scores for the treatment group was 0.59 with an associated probability of 0.003. This was statistically significant. The correlation coefficient between the Piers Harris post test score and the resulting Piers Harris gain score for the treatment group was 0.40 with an associated probability of 0.039. This was statistically significant. The correlation coefficient between the classroom teacher's initial evaluation of the tutor's self concept and the Piers Harris post test score was 0.57 with an associated probability of 0.005. This was statistically significant. The Piers Harris post test scores correlated negatively with the change in the tutor's self concept as evaluated by the classroom teachers. The r score was - 0.39 with an associated probability level of 0.047. This was statistically significant.

Table 9

Treatment Group Post Piers-Harris Correlations

Post Piers-Harris Correlate	N	r	Probability
Pre Piers-Harris Score	20	0.59	0.003
Piers-Harris Gain	20	0.40	0.039
Pre Teacher Self-perception rating	20	0.57	0.005
Teacher Self-perception rating gain	20	-0.39	0.047

A regression analysis was performed using the Piers Harris gain score of the treatment group as the dependent variable and the locus of control, the level of progress by

the preschool student, the number of sessions taught by the tutor, and the initial evaluation by the classroom teacher of the tutor's self concept as independent predictor variables. These predictor variables accounted for 29.9% of the variance of the Piers Harris gain scores. An F ratio of 6.009 resulted for the initial evaluation by the classroom teacher of the tutor's self concept with an associated probability of 0.027. This was the only significant predictor variable resulting from this analysis.

Table 10

Treatment Group Piers-Harris Gain Regression

Dependent Variable - Piers-Harris Gain RSQ = 0.299

Independent Variable	DF	SS	RSQ Change	F	Probability
Locus of Control	1	0.202	0.0002	0.003	0.956
Sessions Tutored	1	34.78	0.025	0.541	0.473
Tutee Progress	1	0.103	0.0001	0.002	0.969
Pre Teacher Self-perception rating	1	386.4	0.281	6.009	* 0.027
Regression	4	410.7		1.60	0.227
Residual	15	964.5			
Total	19	1375.2			

* statistically significant

The correlation coefficient between the pre grade point average (GPA) and the post GPA was 0.84 with an associated probability of 0.00. This was statistically significant. The correlation coefficient between the initial evaluation by the classroom teacher of the tutor's self concept and the pre

GPA was 0.52 with an associated probability of 0.009. This was statistically significant. The correlation coefficient between the final evaluation by the classroom teacher of the tutor's academic potential and the pre GPA was 0.65 with an associated probability of 0.001. This was statistically significant.

Table 11

Treatment Group Pre GPA Correlations

Pre GPA Correlate	N	r	Probability
Post GPA	20	0.84	0.000
Pre Teacher Self-perception rating	20	0.52	0.009
Post Teacher Academic Potential rating	20	0.65	0.001

The correlation coefficient between the initial evaluation by the classroom teacher of the tutor's self concept and the post GPA was 0.55 with an associated probability of 0.006. This was statistically significant. The correlation coefficient between the final evaluation by the classroom teacher of the tutor's self concept and the post GPA was 0.39 with an associated probability of 0.046. This was statistically significant. The correlation coefficient between the initial self-perception evaluation and the resultant GPA gain was 0.38 with an associated probability of 0.049. This was statistically significant. The correlation coefficient between the final evaluation by the classroom teacher of the tutor's academic potential and the post GPA was 0.77

with an associated probability of 0.00. This was statistically significant. The same result occurred for the initial academic evaluation and the post GPA. The correlation between the classroom teacher's initial academic evaluation and the resultant grade point average gain was 0.62 with a probability of 0.002. This was, again, significant.

Table 12

Treatment Group Post GPA Correlations

Post GPA Correlates	N	r	Probability
Pre GPA	20	0.84	0.000
Pre Teacher Self-perception rating	20	0.55	0.006
Post Teacher Self-perception rating	20	0.39	0.046
Pre Teacher Academic Potential rating	20	0.77	0.000
Post Teacher Academic Potential rating	20	0.77	0.000

Summary of the Findings

Fifteen hypotheses were considered in the analysis. Of these, only three: hypotheses two, five, and eleven were accepted.

Hypothesis Two

Students in the treatment group maintained higher grades than students not involved in the tutoring process.

Hypothesis Five

Students who spent more time with their tutees had lower grade point averages.

Hypothesis Eleven

The students with lower pretest scores on the "Piers-Harris Children's Self-concept Test" made greater gains in self-concept scores.

During the analysis of the data concerning the hypotheses, other significant findings appeared relevant. A high correlation between the pre and post Piers-Harris test scores for the treatment group indicated this test was highly reliable for this study (0.003 level of probability). The acceptance of Hypothesis Eleven:

> There will be a significant difference in the changes in self-concept scores of students who initially measured below the mean on the self-concept scale and other tutors in the treatment group,

was strengthened by the significant correlation (0.40 with an associated probability of 0.04) between the post test scores on the "Piers-Harris" and the gain scores for the treatment group.

One group of findings concerning the relationship of the classroom teacher to her students was of particular interest. There was a high correlation between the fifth/sixth grade teacher's initial judgment of the tutors self-concept and the score the tutor earned on the post "Piers-Harris" test. There was also a significant negative correlation between the post score the student achieved on the "Piers-Harris" scale and the teacher's evaluation of the student's self-concept gain. The r score was - 0.39 with an associated probability of 0.047. The teacher's pre-judgment of the student was also analysed using regression analysis.

This analysis supported the significance of the teacher's pre-judgment of the student's self-concept. An F ratio of 6.009 resulted (0.027 associated probability), when the Piers Harris gain score was predicted using teacher pre-judgment as an independent variable. A high correlation also occurred between the teacher's pre-judgment of the tutor's self-concept and the initial grade point average (r score of 0.52 with an associated probability of 0.001); as well as the final grade point average (r score of 0.55 with an associated probability of 0.006). There was little difference between the initial and the final grade point average. The importance of the teacher's judgment is re-emphasized by the correlation between the teacher's final evaluation of the tutor's academic potential and his pre grade point average (0.65 with an associated probability of 0.001). The teacher's final estimate of the tutor's self-concept and his post grade point average also correlated significantly (0.39 with an associated probability of 0.046). There was little difference between the teacher's final estimate of the tutor's academic potential and his final grade point average (0.77 with an associated probability of 0.00). The correlation between the initial academic evaluation and the grade point average gain showed the same consistent teacher influence (0.38 with an associated probability of 0.049).

Chapter V

Summary, Findings, Conclusions, and Implications

Summary of the Study

The study was designed to investigate the effect of serving as tutors for preschool-age handicapped students upon the self-concept and academic achievement of upper elementary age students.

The Problem

The study attempted to answer these research questions:

1. Does interacting with a preschool handicapped child in the role of tutor significantly change the self-concept of a fifth or sixth grade student as measured by the Piers-Harris Children's Self Concept Scale?
2. Does interacting with a preschool handicapped child in the role of tutor significantly change the academic performance of the fifth or sixth grade student as measured by grade point average?
3. Do changes in academic performance increase significantly when the tutor is given control of the planning, evaluating, and executing of his tutoring sessions?

4. Do changes in self-concept increase significantly when the tutor is given control of planning, executing, and evaluating his tutoring sessions?

5. Do changes in academic performance significantly increase when the amount of time the tutor spends with his tutee increases?

6. Do changes in self-concept significantly increase when the amount of time spent tutoring increases?

7. Do changes in academic performance increase significantly when the preschool teacher praises the tutor's performance through written comments?

8. Do changes in self-concept increase significantly when the preschool teacher praises the tutor's performance through written comments?

9. Do changes in academic performance significantly increase when the tutee makes progress observable to the tutor?

10. Do changes in self-concept significantly increase when the tutee makes progress observable to the tutor?

11. Does the tutoring experience cause a more significant change in the self-concept of students who initially measured below the mean in self-concept?

12. Does the tutoring experience cause a more significant change in grade point average of students who initially measured below average on grade point average?

13. Does the evaluation of the tutor's classroom teacher reflect the same direction of change as the self concept

scale?

14. Does the initial attitude the tutor has toward his preschool student significantly affect the degree of change in his grade point average?

15. Does the initial attitude the tutor has toward his preschool student significantly affect the degree of change in his self-concept?

The basic assumptions of this study were that (1) it is possible to measure self-concept using a self report measuring device; (2) teacher given grades represent academic performance; (3) the tutors were not penalized academically since they were scheduled to work during non-instructional periods (students in the control group were involved in another non-academic activity for an equal amount of time during the school day); and (4) grade point averages reflect changes in academic performance with greater accuracy than achievement tests since they are more directly related to the students' day-to-day assignments than are general achievement tests standardized over a wider population.

The Treatment Process

The population for this study was selected from the total membership of the fifth and sixth grades of one Fairfax County, Virginia, elementary school. Forty students expressed a desire to tutor, were given parent permission, and teacher approval to do so. These students were assigned to two

groups using the "Table of Random Numbers." The total list of students was alphabetized, then assigned a number in alphabetical sequence. These numerals were then used as a means of applying the "Table of Random Numbers." The treatment group was composed of 10 boys and 10 girls. Eight students were in the fifth grade and twelve in the sixth. Four of the tutors were ten years old, eleven were eleven years old, and five were twelve years old. The mean age was 11.05 years. The control group was composed of ten girls and ten boys. Eleven students were in the fifth grade, nine in the sixth. Seven students were ten years of age, nine were eleven years of age, and three were twelve. The mean age was 10.75.

The treatment group was subdivided using "The Table of Random Numbers" into sub control and treatment groups in order to examine the effect of two independent variables upon both grade point average gain and self-concept gain. The independent variables considered were locus of control and praise of the tutor by the preschool teacher. Scores of tutors in the treatment group were compared on a continuum basis to examine the effect of the tutor's initial reaction toward his student, the effect of the preschool student's progress, the effect of the number of sessions spent in tutoring, and the effect of the classroom teacher's evaluations (pre and post) upon the self-concept gain and academic progress of the tutor. Self-concept scores and grade point averages of students who were initially performing below the other students academically or with lower self-

concept initially were examined in relation to the gains they had made in grade point average and self-concept as compared to the remaining tutor population.

The entire population of preschool handicapped children (16 students) was included. Their ages ranged from two to five years. One child was five, seven were four years of age, six were three years of age, two were two years of age. Eleven students were boys, five girls. Their mean age was 3.4 years. Two preschool teachers, three aides in the preschool, and the two fifth/sixth grade teachers participated in the study.

All of the prospective tutors were pre tested using The Piers-Harris Children's Self-Concept Scale. The pre testing was accomplished during a single session during which the questions were read aloud to the students. Any questions about word meanings in the questions were answered for the group. During this same time period, the fifth/sixth grade teachers completed the pre-evaluation sheet about all the prospective tutors in their class. Only after both these pieces of data were obtained, were the students divided into the treatment and control groups using "The Table of Random Numbers."

Those students selected for the treatment group were then matched to pre school students through the use of the "Table of Random Numbers." The preschool students were alphabetized and assigned numerals in sequence.

The students were introduced to their preschool student prior to the start of the study. They were given some general

information about the age, handicapping condition, and general needs of their student. The developmental area in which they were to tutor the child was determined by the time of day they were able to come from their class to the preschool classroom. The students came from their classrooms during non-instructional periods. Each student in the fifth/sixth grade classroom spent an equal period of time in some chosen enrichment activity (i.e., preschool tutoring, newspaper committee, school government committee, etc.).

For the first two weeks the tutor and his tutee became acquainted. The preschool teachers selected the materials and planned the lessons. They, or the aide(s), modeled working with the preschool child demonstrating an area in the room in which the child could work. They also demonstrated teaching techniques through which the preschool child could work well.

At the end of the first lesson the tutor was asked to complete a questionnaire about his feelings toward his student and the tutoring situation. The tutors were then arranged into the subgroups through the use of the "Table of Random Numbers."

1. Ten students were given control over planning their student's lessons, finding the materials, selecting the teaching site, and teaching the student. The other ten continued with teacher planned and directed tutoring sessions.

2. Ten students were given written positive comments about their tutoring. The other ten tutors received no comments about their tutoring sessions.

The number of sessions taught by each tutor was recorded. The functioning level of each preschool student in the area(s) in which he was tutored was noted prior to the first tutoring session. The grades for the participating students were recorded for the grade period just prior to the initiation of the tutoring program.

The tutoring project spanned an eighteen week period. At the end of the tutoring period: (1) the current grades for the fifth/sixth grade students participating in the project were recorded; (2) The Piers-Harris Children's Self-Concept Scale was re-administered to the participating students in a single session in the same manner as the pre test; (3) the fifth/sixth grade teachers were asked again to complete the summary sheet concerning the self-concept and academic abilities of those students in their class that took part in the project; (4) the tutors were asked to complete a questionnaire about their tutoring experience and their tutee; (5) the preschool teachers again measured the level of functioning of each preschool student in the area(s) in which he was tutored, compared this score with his previous level score and completed a form indicating the degree of progress each student had made. The degree of progress was determined by comparing the rate for the tutoring period with the previous rate of progress; (6) tutors were also requested to make written comments during the tutoring period.

The gain scores for each fifth/sixth grade student were computed for the "Piers-Harris" and the grade point average. The treatment group was compared with the control group using

these gain scores. The data were analyzed using a two-tailed t test, correlation coefficients, and regression analysis.

The subgroups of tutors were then compared using the Pearson Product Moment Correlation Coefficient, and multiple linear regression analysis. These sub groups were concerned with the effect of locus of control upon the self-concept and/or grade point average of a tutor and with the effect of praise concerning his tutoring given to the tutor in written form by the preschool teachers.

The actual scores of each pre questionnaire were used to analyze the effect upon self-concept and academic performance of the tutors' initial attitude toward his tutee. Actual scores were also used to examine the fifth/sixth grade classroom teacher's evaluation of the student. The actual number of sessions taught by each tutor was used to analyze the effect of the number of sessions upon the tutor's self-concept and academic performance. The rate of progress of each preschool student for that area(s) tutored was also analyzed to observe the effect of the tutor being aware of this progress by the tutee upon his own self-concept and academic achievement. Correlation coefficients and regression analysis were used to analyze all the above data. Two independent variables indicated a relationship with one another preventing their use in the same equation when using multiple linear regression analysis. These two variables were praise by the preschool teacher and the number of sessions a tutor taught. All data were analyzed using a criterion of 0.05 as the level of significance.

The Findings

Analysis of the data indicated Hypotheses Two, Five, and Eleven were accepted. The results indicated: (1) students in the treatment group maintained higher grades than students not involved in tutoring a preschool student, (2) as the amount of time a tutor spent with his tutee increased, however, the grade point average of the tutor declined, (3) the lower the pre test score on The Piers-Harris Children's Self-Concept Test, the higher the resulting self-concept gain made by the individual tutor. The remaining hypotheses were rejected.

During the analysis of the data concerned with evaluating the hypotheses, however, other significant findings became evident. It was evident from the high correlation between the pre and post Piers-Harris test scores (0.59 with an associated probability of 0.003) that the test was a highly reliable instrument with respect to this study. Acceptance of Hypothesis Eleven: that tutors with lower self-concept scores initially would show greater gains in self-concept following the tutoring experience, was reinforced by the significant correlation between the post test scores on the Piers-Harris and the gain scores for the treatment group (0.40 with an associated probability of 0.039).

There was a high correlation indicated between the fifth/sixth grade teacher's initial judgment of the tutor's self-concept and the tutor's final self-concept score on the Piers-Harris (0.57 with an associated probability of 0.005). However, there was a significant negative correlation bet-

ween the gain in self-concept made by the tutors and the gain as judged by the classroom teachers. A regression analysis supported the significance of the teacher's pre-judgment of the student's self-concept upon the tutor's gain in self-concept as measured by the Piers-Harris (-0.39 with an associated probability of 0.047). There was also a high correlation between the teacher's pre-judgment of the tutor's self-concept and the grade point average of the tutor, both pre and post. The pre and post grade point averages correlated at 0.84 with a probability of 0.00. A correlation between the classroom teacher's initial self-perception evaluation and the resultant GPA gain was 0.38 with an associated probability of 0.049. A correlation of 0.65 with a probability of 0.001 occurred between the teacher's final assessment of the student's academic potential and the initial grade point average. The teacher's initial evaluation of the tutor's self-concept and his initial grade point average correlated at 0.52 with an associated probability of 0.009. The teacher's initial evaluation of the tutor's self-concept and his final grade point average correlated at 0.55 with a probability of 0.006. There was also a significant correlation between the classroom teacher's final evaluation of the tutor's self-concept and the tutor's final grade point average. The correlation was 0.39 with a probability of 0.046. There was a perfect correlation between the classroom teacher's initial and final evaluation of the tutor's academic potential. This would indicate that the teacher saw no difference in the students' academic potential over the two

grading periods. The correlation between the classroom teacher's initial academic evaluation and the resultant grade point average gain was 0.62 with a probability of 0.002.

Conclusions of the Inquiry

Although the total treatment group did not demonstrate significant changes in self-concept as the result of written praise of their tutoring performance, four individual members of the group made gains in self-concept scores on the Piers-Harris Test that were in excess of 10 points. These scores, when considered on an individual basis, reflect significant positive changes for these students as defined by the authors of the test.

The strongest influence throughout this study appears to be that of the classroom teacher. It is particularly interesting that her influence affected the treatment group, but did not appear to affect the control group. It would appear that their evaluations of the students initially both in self-concept and academic ability changed little during the eighteen weeks. Perhaps these attitudes or judgments were strongly established in the first weeks of school. Most difficult to explain is the correlation between the teacher's pre-estimate of the tutoring student's self-concept upon his final self-concept score. It is important to note that the teachers made the judgments with no knowledge of who would be in the treatment group or in the control group. A similar correlation does not appear between this pre-estimate of self-concept and the initial self-concept score nor does the

correlation appear for the control group. As the study began, the teacher's estimate of how the tutor's saw themselves was not closely related to the self-concept score. By the end of the study, there was a significant relationship. This relationship appears only for the group of tutors and does not hold true for the control group. Through what means the attitude of the teachers might have been transmitted to the tutors can only be speculated. What is evident is that the teacher's initial view of the child's academic ability and his self-concept appear significantly related and appear to be predictors of the student's final view of himself and of his academic achievement. The effect of the teacher's opinion upon the tutor's final self-concept rating is very similar to the results found by R. Rosenthal and I. Jacobson in their study of "Pygmalion in the Classroom" in which the teacher's beliefs about the students' IQ scores actually affected the IQ score of the pupil. The researchers have continued to study this occurence, seeking to discover how these expectations are communicated.

In previous cross-age studies, there were examples of tutoring significantly improving academic skills of tutors in the subject which they tutored. The tutor often experienced the lower level teaching as a review of the concepts which he might not have clearly understood at that level. He found that he needed to study hard and master the lower concepts to enable him to tutor the younger child. In this study, the very young age of the tutees prevented designing a study in which tutors who were having difficulty in a subject could

tutor a younger child also having difficulty. None of the materials used and lessons presented resembled "academic" tasks. This allowed the researcher to explore whether the tutoring experience itself, minus the practice effect would affect the academic progress of the tutor. It was most interesting to ncte that the treatment group did achieve significantly higher academic achievement than the control group.

In examining the relationship between the number of sessions a tutor taught and his grade point average, it would appear that his grades decrease in proportion to the number of sessions he teaches. Within the group of tutors, it was discovered that the students who appeared most frequently to tutor were those students who were nct functioning well in the classroom. Their grades already were very poor. They appeared to enjoy coming to the preschool and expressed their feeling of being successful and necessary for their student's achievement. It is suspected they may have at times avoided academic exercises in the classroom that unexpectedly conflicted with their ncrmal tutoring schedule. They also tended to arrive early and delay departure. In the preschool setting these students found a small person who welcomed them warmly and enthusiastically as someone very special. Measured against dealing with academic material which was difficult and frustrating, the choice of activities is not hard to understand. It is interesting that despite the never missed visits on the part of some students with the resulting lower grades, as a whole, the tutors' grades were higher than the

control group's grades.

Another interesting finding was the tendency of the students who demonstrated the lowest self-concept scores initially to make the largest gains toward a more positive self image. Apparently some aspect of the experience increased their ability to evaluate themselves positively. Perhaps they felt they were needed by the preschool teachers and students. The task was defined as a responsibility which must be assumed only if the student could indeed come when he was expected and meet the needs of his student as requested. It was stressed that there were not enough adults to meet the needs of these young students. If the preschool students were to learn, the tutor must be present. If he could not be responsible, he was asked please not to take the job.

Implications of the Investigation

Noting the apparent strong influence of the classroom teacher upon a student's concept of himself, we should perhaps closely examine the strong initial correlation between the teacher's view of the child's self-concept and the level of academic performance within which she sees him functioning. Low self esteem and low grades, high self esteem and high grades correlated closely in the teacher's initial evaluation of the student. These evaluations did not change significantly by the end of the school term. In essence it appears that the student did not change in the teacher's judgment from the first to the last rating. Yet we know within the tutoring group, at least, self-concept views

held by the students did change, particularly for students with low initial self-concepts.

Each student was rated by his classroom teacher but taught by both teachers so that grading of each student was shared. The student was graded in each subject area by the teacher who was his instructor. This team teaching method would serve as one safeguard against the apparent initial bias of both teachers toward their students. The student is granted two opinions as to his academic ability. This factor may have contributed to the ability of the treatment group to maintain higher grades than the control group. The grade variable was determined by sources other than the originally rating teacher. This allowed for a difference despite the strong bias implied in the pre-post teacher evaluation correlations.

In view of this apparent bias, it might be reasonable to consider providing students with several components to determine their academic performance. Although grades do more closely rate a student's progress in the subjects he is studying, the use of standardized achievement tests might add another dimension to the comparison between the teacher's perception of a student's ability or performance and what the student actually demonstrates. Team teaching, involving several observers of the student in making a judgment of performance might also be indicated.

The various aspects of the teaching arrangement apparently made little difference toward changing the attitude of the tutor. It appeared unimportant to the tutor

if he were praised for his efforts, in control of the lesson, or if his preschool student made progress. Looking at the comments of the tutors, the apparent effect came from their own feeling that they were making a difference to their tutee. The attachment factor appears to be strong. The factor that seemed to make a difference was the warm friendship that developed between a small student and a bigger student who apparently needed each other, some more so than others.

Each preschool child developed a warm relationship with his tutor. The one-to-one relationship provided the student, with multiple problems, with a needed friend. As a result each preschool child saw his special person as a wonderful being. Anytime the tutor came, the small child's face lit up with happiness. Each time the child saw the tutor in the other parts of the school, he was overjoyed. The joy was reciprocated.

Both academic performance and self-concept showed the effects of the relationship, once teacher bias was controlled. Those students with already strong self-concepts did not change in that strength which is most reasonable. Those with poor self-concepts came to see themselves with increased positiveness.

Recommendations From the Research

For the field of education, I think this study has some important suggestions. First, teachers need to become aware of their own biases and their tendency to perhaps judge a

student early in the year and then mold him into that judgment. Moreover, the strong relationship between how that teacher perceives the child to be and the grades he receives makes guarding against biases even more important. There are so many reasons why students behave as they do and reflect the type of public self-concept that they do. It may well be to each child's advantage for the teacher to spend time learning about him first as a person. How does his day start? What does he have to look forward to when he goes home? Who are his friends? etc. Less initial time spent on academics and more on child-centered understanding activities may in the end have a greater effect on academic progress.

As much as teachers fight achievement tests, the bias of their own grades as the only measure of accomplishment may be unfair. We need to look for more than one way to judge the academic progress of each student. Consideration might also be given to team centered organization so that each child benefits from multiple view points of him as a person and a student.

For those students who appear to need a more positive sense of worth, an experience similar to that in this study might well be considered. Students within the preadolescent age group are seeking a definition of their own abilities and value. For these students an experience which tends to develop positive self-concept should be particularly powerful.

For all students, a project that offers similar opportunities and experiences might well be considered in view of the positive effect upon academic performance for the

treatment population.

Future Research

I would strongly suggest many varied replications of only one aspect of this study: the effect of matching upper elementary students, particularly those with self-concept problems, with a young handicapped friend. Complex matching processes and complex roles as tutors, I feel, are unnecessary. The older student can be a play partner, an escort to the bus, a lunch buddy, or a tutor. The important aspect is the provision of a climate to allow the development of a friendship between the younger and older student.

I would also suggest an investigation that looked at teacher behavior in relation to student evaluation. The correlations were strong in suggesting that the teacher's view of each student affects not only the teacher's judgment of how the student sees himself, but in turn his academic progress. It would appear that if students are to make academic progress measurable by teacher grades, the teacher needs more input concerning academic progress than the one teacher's own judgment, further, the teacher needs to assist those students with less favorable self-concept to view themselves more positively. She needs a means of identifying those students that reaches beyond her own instincts.

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APPENDIX A

Sample Permission Slip

SAMPLE PERMISSION SLIP

DATE _____

Dear _____

This year teachers of the preschool classes for handicapped children are requesting assistance from the students in the fifth and sixth grade classes. Students who are selected will serve as tutors for individual preschool children, (ages 30-66 months) in learning gross motor, fine motor, language cognitive, and self-help skills. Students will be asked to contribute no more than 30 minutes twice a week. Students will be expected to complete their daily regular classroom assignments. The times for tutoring by each student will be scheduled by the preschool teachers with the student's classroom teacher to avoid conflicts with the student's classroom attendance during academic instructional time.

Each student participating will be asked to complete a brief questionnaire at the beginning and end of the tutoring experiment.

A student must have his/her parent's permission to participate. If you are willing for your child to serve as a tutor this year, please sign the enclosed permission slip.

I give permission for my son/daughter _____ to act as a tutor for a preschool handicapped child.

_____ _____

Date Signature of Parent/Guardian

APPENDIX D

Initial Classroom Teacher Evaluation Form

Teacher: B

Initial Evaluation

Criteria	Student's Perception of Himself	Over All Academic Performance
Student moved about with confidence. Student takes part in school activities.	Student uses eye contact in conversational exchanges. Student is a part of a social peer group. Student is verbally positive about: his performance on school assignments activities he is involved in at school or in the community. Student is usually verbally positive about: other students adults his family	Assignments are turned in on time. Student completes most assignments. Student is neat about school property and study area. Student works up to his ability level. Student exhibits an interest in class topics.

STUDENTS	-				+	-				
1. Cady	1	2	3	4		1	2	3	4	
2. Lee	1	2	3	4		1	2	3	4	
3. Mark	1	2	3	4		1	2	3	4	
4. B.J.	1	2	3	4		1	2	3	4	
5. Laura	1	2	3	4		1	2	3	4	
6. Diana	1	2	3	4		1	2	3	4	
7. Dawn	1	2	3	4		1	2	3	4	
8. Cynthia	1	2	3	4		1	2	3	4	
9. Wendy	1	2	3	4		1	2	3	4	
10. Andrew	1	2	3	4		1	2	3	4	

	-				+	-				
11. Danial		1	2	3	4		1	2	3	4
12. J.J.		1	2	3	4		1	2	3	4
13. Brian		1	2	3	4		1	2	3	4
14. Candy		1	2	3	4		1	2	3	4
15. Kenneth		1	2	3	4		1	2	3	4
16. T.J.		1	2	3	4		1	2	3	4
17. Tisha		1	2	3	4		1	2	3	4
18. Diana		1	2	3	4		1	2	3	4
19. Delilah		1	2	3	4		1	2	3	4
20. Christine		1	2	3	4		1	2	3	4

Teacher: A

Initial Evaluation

Criteria	Student's Perception of Himself	Over All Academic Performance
Student moved about with confidence. Student takes part in school activities.	Student uses eye contact in conversational exchanges. Student is a part of a social peer group. Student is verbally positive about: his performance on school assignments activities he is involved in at school or in the community. Student is usually verbally positive about: other students adults his family	Assignments are turned in on time. Student completes most assignments. Student is neat about school property and study area. Student works up to his ability level. Student exhibits an interest in class topics.

STUDENTS	-				+	-				
1. Vineet		1	2	3	4		1	2	3	4
2. Shawn		1	2	3	4		1	2	3	4
3. Adam		1	2	3	4		1	2	3	4
4. Kevin		1	2	3	4		1	2	3	4
5. Ryan		1	2	3	4		1	2	3	4
6. Matt		1	2	3	4		1	2	3	4
7. Tabitha		1	2	3	4		1	2	3	4
8. Tony		1	2	3	4		1	2	3	4
9. Mayme		1	2	3	4		1	2	3	4
10. Billy		1	2	3	4		1	2	3	4

		-				+	-				+
11.	Anne		1	2	3	4		1	2	3	4
12.	Ricky		1	2	3	4		1	2	3	4
13.	Adam		1	2	3	4		1	2	3	4
14.	Sarah		1	2	3	4		1	2	3	4
15.	Angie		1	2	3	4		1	2	3	4
16.	Sandra		1	2	3	4		1	2	3	4
17.	Christa		1	2	3	4		1	2	3	4
18.	Susan		1	2	3	4		1	2	3	4
19.	Lloyd		1	2	3	4		1	2	3	4
20.	Jay		1	2	3	4		1	2	3	4

APPENDIX C

Final Classroom Teacher Evaluation Form

Teacher: A

Final Evaluation

Criteria	Student's Perception of Himself	Over All Academic Performance
Student moves about with confidence. Student takes part in school activities.	Student uses eye contact in conversational exchanges. Student is a part of a social peer group. Student is verbally positive about: his performance on school assignments activities he is involved in at school or in the community. Student is usually verbally positive about: other students adults his family	Assignments are turned in on time. Student completes most assignments. Student is neat about school property and study area. Student works up to his ability level. Student exhibits an interest in class topics.

STUDENTS	-				+	-				
1. Vineet		1	2	3	4		1	2	3	4
2. Shawn		1	2	3	4		1	2	3	4
3. Adam		1	2	3	4		1	2	3	4
4. Kevin		1	2	3	4		1	2	3	4
5. Ryan		1	2	3	4		1	2	3	4
6. Matt		1	2	3	4		1	2	3	4
7. Tabitha		1	2	3	4		1	2	3	4
8. Tony		1	2	3	4		1	2	3	4
9. Mayme		1	2	3	4		1	2	3	4
10. Billy		1	2	3	4		1	2	3	4

	-				+	-			
11. Daniel	1	2	3	4		1	2	3	4
12. J.J.	1	2	3	4		1	2	3	4
13. Brian	1	2	3	4		1	2	3	4
14. Candy	1	2	3	4		1	2	3	4
15. Kenneth	1	2	3	4		1	2	3	4
16. T.J.	1	2	3	4		1	2	3	4
17. Tisha	1	2	3	4		1	2	3	4
18. Diana	1	2	3	4		1	2	3	4
19. Delilah	1	2	3	4		1	2	3	4
20. Christine	1	2	3	4		1	2	3	4

Teacher: B

Final Evaluation

Criteria	Student's Perception of Himself	Over All Academic Performance
Student moved about with confidence. Student takes part in school activities.	Student uses eye contact in conversational exchanges. Student is a part of a social peer group. Student is verbally positive about: his performance on school assignments activities he is involved in at school or in the community. Student is usually verbally positive about: other students adults his family	Assignments are turned in on time. Student completes most assignments Student is neat about school prope and study area. Student works up to his ability le Student exhibits an interest in cl topics.

STUDENTS	-				+	-				
1. Cady	1	2	3	4		1	2	3	4	
2. Lee	1	2	3	4		1	2	3	4	
3. Mark	1	2	3	4		1	2	3	4	
4. B.J.	1	2	3	4		1	2	3	4	
5. Laura	1	2	3	4		1	2	3	4	
6. Diana	1	2	3	4		1	2	3	4	
7. Dawn	1	2	3	4		1	2	3	4	
8. Cynthia	1	2	3	4		1	2	3	4	
9. Wendy	1	2	3	4		1	2	3	4	
10. Andrew	1	2	3	4		1	2	3	4	

	-				+	-			
11. Anne	1	2	3	4		1	2	3	4
12. Ricky	1	2	3	4		1	2	3	4
13. Adam	1	2	3	4		1	2	3	4
14. Sarah	1	2	3	4		1	2	3	4
15. Angie	1	2	3	4		1	2	3	4
16. Sandra	1	2	3	4		1	2	3	4
17. Christa	1	2	3	4		1	2	3	4
18. Susan	1	2	3	4		1	2	3	4
19. Lloyd	1	2	3	4		1	2	3	4
20. Jay	1	2	3	4		1	2	3	4

APPENDIX D

Initial Tutor Questionnaire

Now that you have met your preschool child and begun to understand what you can do to help him learn, please tell us how you feel about your teaching assignment.

Circle One

I look forward to coming to the preschool classroom.	Yes	No
I like my preschool child.	Yes	No
I would like to spend more time helping in the preschool.	Yes	No
I would like to work in a different way. How?	Yes	No

_____

_____

_____

I feel I can help my child with the tasks we are assigned.	Yes	No
I feel my child likes me.	Yes	No
I feel my child can learn the tasks we are assigned.	Yes	No
I enjoy working with my child.	Yes	No
I feel it is worth giving up part of my own time in my classroom to help in the preschool.	Yes	No
I feel I would do better with another child.	Yes	No

Comments: _____

_____

_____

_____

APPENDIX E

Final Tutor Questionnaire

Now that you have completed your tutoring assignment with the preschool, please tell us how you felt about your teaching assignment.

Circle One

I looked forward to coming to the preschool classroom.	Yes	No
I would like to help in the preschool again at a later time.	Yes	No
I liked my preschool child.	Yes	No
I felt I was a real help to my child in learning the tasks we were assigned.	Yes	No
I feel my child tried to learn for me.	Yes	No
I feel the tasks we were assigned were too difficult for my child.	Yes	No
I enjoyed working with my child.	Yes	No
I feel it was worth giving up part of my own time in my classroom to help in the preschool.	Yes	No

If you did come back to the preschool:

I would like to work with my child again.	Yes	No
I would like to work with a different child.	Yes	No

Comments: _____

_____

_____

_____

APPENDIX F

Preschool Teacher Rating of Tutee Progress

PRESCHOOL TEACHER
EVALUATION OF PRESCHOOL STUDENTS

Name	Area of Skill In Which Child Was Tutored	IMPROVEMENT NOTED KEY			
		No Improvement 1	Below Expectations 2	As Expected 3	Above Expectations 4
		1	2	3	4
		1	2	3	4
		1	2	3	4
		1	2	3	4
		1	2	3	4
		1	2	3	4
		1	2	3	4
		1	2	3	4
		1	2	3	4

APPENDIX G

Piers-Harris Children's Self-Concept Scale

THE PIERS-HARRIS

CHILDREN'S SELF CONCEPT SCALE

(The Way I Feel About Myself)

by

ELLEN V. PIERS, Ph.D.

and

DALE B. HARRIS, Ph.D.

Published by

Counselor Recordings and Tests

BOX 6184 ACKLEN STATION NASHVILLE, TENNESSEE 37212

THE WAY I FEEL ABOUT MYSELF

NAME .....

AGE ..... GIRL OR BOY.....

GRADE ..... SCHOOL.....

DATE .....

©Ellen V. Piers and Dale B. Harris, 1969

Here are a set of statements. Some of them are true of you and so you will circle the *yes.* Some are not true of you and so you will circle the *no.* Answer *every* question even if some are hard to decide, but do *not* circle both *yes* and *no.* Remember, circle the *yes* if the statement is generally like you, or circle the *no* if the statement is generally not like you. There are no right or wrong answers. Only you can tell us how you feel about yourself, so we hope you will mark the way you really feel inside.

1. My classmates make fun of me..... yes no
2. I am a happy person..... yes no
3. It is hard for me to make friends..... yes no
4. I am often sad..... yes no
5. I am smart..... yes no
6. I am shy..... yes no
7. I get nervous when the teacher calls on me..... yes no
8. My looks bother me..... yes no
9. When I grow up, I will be an important person..... yes no
10. I get worried when we have tests in school..... yes no
11. I am unpopular..... yes no
12. I am well behaved in school..... yes no
13. It is usually my fault when something goes wrong..... yes no
14. I cause trouble to my family..... yes no
15. I am strong..... yes no
16. I have good ideas..... yes no
17. I am an important member of my family..... yes no
18. I usually want my own way..... yes no
19. I am good at making things with my hands..... yes no
20. I give up easily..... yes no

21. I am good in my school work ..... yes no
22. I do many bad things ..... yes no
23. I can draw well ..... yes no
24. I am good in music ..... yes no
25. I behave badly at home ..... yes no
26. I am slow in finishing my school work ..... yes no
27. I am an important member of my class ..... yes no
28. I am nervous ..... yes no
29. I have pretty eyes ..... yes no
30. I can give a good report in front of the class ..... yes no
31. In school I am a dreamer ..... yes no
32. I pick on my brother(s) and sister(s) ..... yes no
33. My friends like my ideas ..... yes no
34. I often get into trouble ..... yes no
35. I am obedient at home ..... yes no
36. I am lucky ..... yes no
37. I worry a lot ..... yes no
38. My parents expect too much of me ..... yes no
39. I like being the way I am ..... yes no
40. I feel left out of things ..... yes no

41. I have nice hair..... yes no
42. I often volunteer in school ..... yes no
43. I wish I were different ..... yes no
44. I sleep well at night..... yes no
45. I hate school..... yes no
46. I am among the last to be chosen for games..... yes no
47. I am sick a lot ..... yes no
48. I am often mean to other people..... yes no
49. My classmates in school think I have good ideas ..... yes no
50. I am unhappy ..... yes no
51. I have many friends ..... yes no
52. I am cheerful ..... yes no
53. I am dumb about most things ..... yes no
54. I am good looking ..... yes no
55. I have lots of pep..... yes no
56. I get into a lot of fights..... yes no
57. I am popular with boys..... yes no
58. People pick on me ..... yes no
59. My family is disappointed in me..... yes no
60. I have a pleasant face ..... yes no

61. When I try to make something, everything seems to go wrong. yes no
62. I am picked on at home ..... yes no
63. I am a leader in games and sports ..... yes no
64. I am clumsy ..... yes no
65. In games and sports, I watch instead of play ..... yes no
66. I forget what I learn ..... yes no
67. I am easy to get along with ..... yes no
68. I lose my temper easily ..... yes no
69. I am popular with girls ..... yes no
70. I am a good reader ..... yes no
71. I would rather work alone than with a group ..... yes no
72. I like my brother (sister) ..... yes no
73. I have a good figure ..... yes no
74. I am often afraid ..... yes no
75. I am always dropping or breaking things ..... yes no
76. I can be trusted ..... yes no
77. I am different from other people ..... yes no
78. I think bad thoughts ..... yes no
79. I cry easily ..... yes no
80. I am a good person ..... yes no

APPENDIX H

Sample Tutor Final

Questionnaire Responses

Now that you have completed your tutoring assignment with the preschool, please tell us how you felt about your teaching assignment.

Circle One

I looked forward to coming to the preschool classroom.	(Yes)	No
I would like to help in the preschool again at a later time.	(Yes)	No
I liked my preschool child.	(Yes)	No
I felt I was a real help to my child in learning the tasks we were assigned.	(Yes)	No
I feel my child tried to learn for me.	(Yes)	No
I feel the tasks we were assigned were too difficult for my child.	Yes	(No)
I enjoyed working with my child.	(Yes)	No
I feel it was worth giving up part of my own time in my classroom to help in the preschool.	(Yes)	No

If you did come back to the preschool:

I would like to work with my child again.	Yes	(No)
I would like to work with a different child.	(Yes)	No

Comments: I feel that when we work with the kids they look forward to see us and the kids and us get attached to them.

Now that you have completed your tutoring assignment with the preschool, please tell us how you felt about your teaching assignment.

Circle One

I looked forward to coming to the preschool classroom.	(Yes)	No
I would like to help in the preschool again at a later time.	(Yes)	No
I liked my preschool child.	(Yes)	No
I felt I was a real help to my child in learning the tasks we were assigned.	(Yes)	No
I feel my child tried to learn for me.	(Yes)	No
I feel the tasks we were assigned were too difficult for my child.	Yes	(No)
I enjoyed working with my child.	(Yes)	No
I feel it was worth giving up part of my own time in my classroom to help in the preschool.	(Yes)	No

If you did come back to the preschool:

I would like to work with my child again.	(Yes)	No
I would like to work with a different child.	Yes	(No)

Comments: I did work with Cindy and I feel I helped her in doing what we were assigned

Now that you have completed your tutoring assignment with the preschool, please tell us how you felt about your teaching assignment.

Circle One

I looked forward to coming to the preschool classroom.	(Yes)	No
I would like to help in the preschool again at a later time.	(Yes)	No
I liked my preschool child.	(Yes)	No
I felt I was a real help to my child in learning the tasks we were assigned.	(Yes)	No
I feel my child tried to learn for me.	(Yes)	No
I feel the tasks we were assigned were too difficult for my child.	(Yes)	No
I enjoyed working with my child.	Yes	No
I feel it was worth giving up part of my own time in my classroom to help in the preschool.	Yes	No

If you did come back to the preschool,

I would like to work with my child again.	Yes	No
I would like to work with a different child.	Yes	(No)

Comments: I loved working with my child but I wish I could work longer with him.

Now that you have completed your tutoring assignment with the preschool, please tell us how you felt about your teaching assignment.

Circle One

I looked forward to coming to the preschool classroom.	(Yes)	No
I would like to help in the preschool again at a later time.	(Yes)	No
I liked my preschool child.	(Yes)	No
I felt I was a real help to my child in learning the tasks we were assigned.	(Yes)	No
I feel my child tried to learn for me.	(Yes)	No
I feel the tasks we were assigned were too difficult for my child.	Yes	(No)
I enjoyed working with my child.	(Yes)	No
I feel it was worth giving up part of my own time in my classroom to help in the preschool.	(Yes)	No

If you did come back to the preschool:

I would like to work with my child again.	(Yes)	No
I would like to work with a different child.	Yes	(No)

Comments: I would really like to help Cecily again sometime soon. Thank you,
Dawn Lloyd

P.S. I when I was working with Cecily. I felt like she was my ~~ow~~ own child. Because I was helping her learn new things.

APPENDIX I

Sample Teacher Planned Lessons

and

Tutor Comments

Sample Teacher Planned Lessons and Tutor Comments

Here are some fine markers. Try these with Christy. She may do better with her lines. Here is some shaving soap. We are trying to get her to use her fingers to make them stronger. She could draw lines in the soap if you spray it on the table. Here is a parquetry board. She fits the shape into the right spaces. She also needs to try these little pegs. If she puts 6 or 8 pegs in the board that will be great. How did she do?

She did good on everything. She needs a little help with the pegs.

Brian needs to do his triangle, circle, square puzzle one more time. He could try to string the beads he put in the can. He still needs to hold the beads with his fingers. He has markers to draw a circle. You draw one and help him copy you. See if he can do it himself. Here are special scissors. Your hand goes in the two holes on the outside. His fingers go inside. Ask and the aide will help you. Can you leave a note on how he does? Thanks!

Brian was good with everything but he had trouble making the circles.

Brandon has smaller beads to string, little pegs - do one row, a puzzle, chalk to draw circles on the board, and double-handled scissors. Your fingers go on the outside, his inside. The aide will show you how to help him cut. How did he do?

Brandon is doing very well on the beads and puzzles. I was amazzed (sic) to teach him to draw circles with his right hand, he does better with his left. He is doing great circles.

Brian needs to work again on the steps - alternating feet. He needs very much to ride a bike. He needs lots of big cheers and surprises to try. He needs to throw overhand. Use bean bags. He needs to jump down off one block with his feet together. You can hold his hands and lift him up a bit. If you have time, sit facing the wall. Roll the red ball. Let it come back. He is to move his hands to it to catch it. How did he do?

Brian can do the steps very well, but has to hold on to my hand. On his bike he does a little each time. He rides it. Brian can throw the bean bags very well overhand. He only does it overhand and no other way.

Casey needs to hold the beads in his fingers and string them. He needs to try one of the puzzles. Talk to him first about each of the parts - head, feet, etc. Then take the pieces out. He has markers to try to draw a circle. You make one let him try. You help him. The double-handled scissors are to cut fringe. Your fingers go on the outside. His on the inside. You help him open and close.

Casey has no trouble at all putting the beads on the string but when I ask him the color he says everything is yellow. He seems to be able to put the pieces in the right place, but he does not know what each piece is.

Brandon is very shy and needs lots of praise. Today see if he will play with you. You could use our Fisher Price Garage. After five minutes or so, then try to work. He needs to look at his puzzle and have you tell him the parts. This is the boy's hat. Let's take that out. Here is his face! Let's take that out. If he does a good job, give him a reward. He is doing well with beads so we are making him use all round beads now. These are hard to hold. He needs to pick them up with his fingers, hold them in his fingers, and drop them in the can. He is not to hold them in his hand or push them into the can with his hand. He is trying to learn to cut with scissors but he first needs to move his thumb and finger back and forth so they touch and then part. He has the camera, a clothes pin, and a cricket to squeeze and learn to do this. Last he needs to see you make a circle and try to do what you do. You may need to guide his hand. Around and stop. Do this four or five times. Could you leave us a note about how he does? Thanks!

Brandon is doing very well on squeezing with his thumb, also on droping (sic) the beads in the can with two fingers. He is getting better on the drawing circles.

Here are some little hearts to use to reward Cecily. Please set her table up in the middle room. She may add the colors "yellow" and "green" to her signs, if she does the others well the yellow book will show you how to do them. There are many yellow and green things in the bag. Ask her to give you "yellow". Sign "Give me Yellow". Put out your hand. If she does it right, give her a reward. If she is wrong, help her to put the right one in your hand after you tell her "no". Then give her a reward. Please tell us how she did in a note. Thanks. You're great!

Cecily is doing very well with sign language.

Brian is still working on steps. You need to hold his hand. If he does well give him a marshmellow (sic). He is also trying to ride the Chips. Here is a necktie to put around the front and pull a little. He may need you to move his feet for him at first. He has a ball to learn to catch. If you roll it he can move his hands to the ball and catch

it. Sit him facing the wall. If you are behind him and roll the ball hard against the wall it will roll back. You can move his arms to catch the ball. Do it a few times, then let him try on his own. Give him a marshmellow (sic) for good work. He is learning to jump. If he stands on the block you can hold his hands and when he jumps down, help him go up a little. Your are doing a great job! Can you leave us a note about how he does? Thanks!

Brian can climb the stairs very good but he still has to hold on to my hand. He does not have trouble with the ball. He does have a little trouble riding the Chips but he has the idea of pushing the pedals. He will go once in a while when he pushes.

Here are little pegs for Paul to drop through the hole in the can. He can then put six or eight in the peg board. He needs to cut again with the double scissors. He also needs to continue to try to draw circles. Here are smaller beads to string. How did he do?

He wasn't very good because he stole the treats and dumped them on the floor.

APPENDIX J

Sample Tutor Planned Lessons and Comments

Sample Tutor Planned Lessons and Comments

For Brian

Continue with stringing small beads. Pick up (little) pegs and drop them through the top of the lid in the can. Put 6 - 8 pegs in the peg board. Let him catch the soft beach ball. Let him ride the red tricycle. Encourage him to pedal.

For Andy

Work on his puzzle carefully matching shapes. Comment - good. Do beads. Comment. He wasn't in the mood. Cut fringe. Comment - good. Make a row of pegs. Comment - good.

For Brandon

Draw + and O. Use the paint and easel. Cut using the double scissors with my help then use single scissors. Do small beads and a puzzle.

For Casey

Use eggs and baskets. Hold one big egg and one little egg. Tell Casey to take the big egg or to put the little egg in the basket. Stuff like that. Do beside, under, on, behind. Get him to find the egg places like under the chair.

For Christy

Work on these directions.

Put on the table
under the table
in the cup

Give me the _____ .

Have her match the lotto game and the shape blocks to the picture of the blocks.

She did good with really everything. She needs a little help with the blocks.

For Cecily

Teach her the sign for pants.

Help her cut with squeeze scissors. Work with little pegs so she picks them up from the top with 2 fingers only. Help her roll snakes, pinch, and flatten playdough.

Cecily has done very well with her signs. I would like to do a lot more signs with Cecily. She has been doing her signs cookie, ball, where.

For Aleisha

Let Aleisha make O and + at the easel with paint. Then use chalk board. Work on puzzles.

She did good but she isn't using her hand that much.

APPENDIX K

Sample Written Praise Messages

Sample Written Praise Messages

Cady, you were right. Brandon was very sick and had a high fever. Your ability to understand his problem was a big help to him and to us.

Cady, we so appreciate your real concern for Brandon.

You do such a nice job with him. We really appreciate it.

Andy really missed you. You do a great job with him.

Andy's mom would love for you to come to their house. You are doing such a great job getting him to work, she would like you to help her learn how to help him.

You are doing a super job with Andy. He is so good with you on puzzles.

You are doing a super job with Brian. His mom is very impressed with what he has learned.

Dawn, you are super with Cecily. Our new teacher was very impressed with your work.

Wendy, you do a really nice job with Brian.

Thanks for all the help you have given her. She has done well with your help.

You are doing such a great job with Brian we'd like you to begin to plan his lessons.

Sample Written Praise Messages

Cady, you were right. Brandon was very sick and had a high fever. Your ability to understand his problem was a big help to him and to us.

Cady, we so appreciate your real concern for Brandon.

You do such a nice job with him. We really appreciate it.

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Andy's mom would love for you to come to their house. You are doing such a great job getting him to work, she would like you to help her learn how to help him.

You are doing a super job with Andy. He is so good with you on puzzles.

You are doing a super job with Brian. His mom is very impressed with what he has learned.

Dawn, you are super with Cecily. Our new teacher was very impressed with your work.

Wendy, you do a really nice job with Brian.

Thanks for all the help you have given her. She has done well with your help.

You are doing such a great job with Brian we'd like you to begin to plan his lessons.