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PREVIEW

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**An analysis of the achievement of students with TESA-trained
teachers compared to the achievement of students with
non-TESA-trained teachers**

Hindalong, Richard Lee, Ph.D.

The University of Nebraska - Lincoln, 1993

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**300 N. Zeeb Rd.
Ann Arbor, MI 48106**

PREVIEW

AN ANALYSIS OF THE ACHIEVEMENT
OF STUDENTS WITH TESA TRAINED TEACHERS
COMPARED TO THE ACHIEVEMENT OF STUDENTS
WITH NON TESA TRAINED TEACHERS

by

Richard L. Hindalong

A DISSERTATION

Presented to the Faculty of
The Graduate College at the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy

Major: Interdepartmental Area of Administration
Curriculum, and Instruction

Under the Supervision of Professor Robert C. O'Reilly

Lincoln, Nebraska

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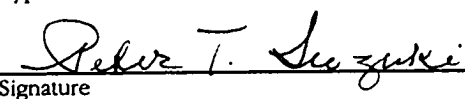
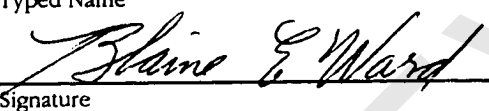
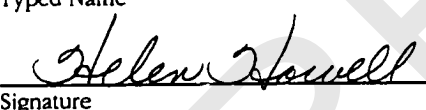
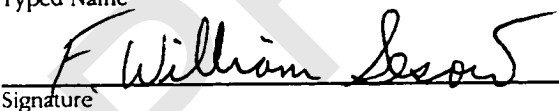
DISSERTATION TITLE

AN ANALYSIS OF THE ACHIEVEMENT OF STUDENTS WITH
TESA TRAINED TEACHERS COMPARED TO THE ACHIEVEMENT
OF STUDENTS WITH NON TESA TRAINED TEACHERS

BY

Richard L. Hindalong

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AN ANALYSIS OF THE ACHIEVEMENT
OF STUDENTS WITH TESA TRAINED TEACHERS
COMPARED TO THE ACHIEVEMENT OF STUDENTS
WITH NON TESA TRAINED TEACHERS

Richard L. Hindalong, Ph.D.

University of Nebraska, 1993

Adviser: Robert C. O'Reilly

Teacher Expectations and Student Achievement (TESA) is a staff development program for teachers at all levels. It has been in existence nationwide for nearly twenty years and is based on fifteen separate teacher-student interactions identified as being supportive and motivating. Cited research has proven that these interactions were practiced in classrooms with high achievers more frequently than with low achievers. A model was developed where the interactions were grouped into three major strands, five interactions per strand. The TESA model trains participating teachers to interact with low achieving students at the same rate as high achieving students.

The purpose of this study was to determine if overall levels of student achievement increased greater with TESA trained teachers compared to non TESA trained teachers. This quasi-experimental study compared differences of student achievement levels in the areas of

math, reading, and language arts between an experimental group (N=82) and a control group (N=128). A two-by-two split plot design utilizing ANOVA statistical procedures was employed to define levels of significance ($p < .05$). The subjects were from two similar elementary schools and from matching grade levels. Independent variables involved five TESA trained teachers (experimental group) and six non TESA trained teachers (control group) along with pretest and posttest time factors. The dependent variable involved the means of normal curve equivalent (NCE) scores from a standardized achievement battery.

No statistically significant relationships existed among the three areas of math, reading, and language arts between the experimental and control groups due to the TESA treatment. It was recommended that further quantitative studies, utilizing a similar design be implemented with comparison groups from different grade and ability levels, cultural settings, and socioeconomic backgrounds.

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R.L.H.

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Chapter I

INTRODUCTION

Teachers support and motivate high achievers more than low achievers. Research has discovered that high achievers receive more response opportunities, along with more time to respond, to given questions by teachers. Also, high achieving students are provided extra reinforcement and assistance in developing responses more frequently than do low achievers. (Cooper and Tom, 1984; Joyce, Showers, Rolheiser-Bennett, 1987; Smith, 1980).

One method by which to involve students in classroom discussions is to ask them to respond to inquiries, or express ideas and opinions. It has been proven that if teachers increase the "wait time" by three seconds or more after a question has been asked, both high and low learners develop a better use of language and logic, as well as enhance personal attitudes and expectations (Chewprecha, Gardner, Saprianchi, 1980, Rowe, 1986; Swift and Gooding, 1983).

In 1970, Martin and Kerman of the Los Angeles County Schools began to develop a study that would deal with the effects of teacher expectations and student achievement (Kerman, 1979). The result was an inservice program that would train teachers to utilize motivating and supportive interactions and techniques more than in the past with low achieving students, and at an equal rate to that of

high achieving students, thereby increasing overall student achievement. At that time, the inservice program, entitled Equal Opportunity in the Classroom (EOC), focused on eighteen separate interactions as being supportive and motivating to classroom students. As the workshops steadily grew nationally, in 1980 EOC changed its title to TESA (Teacher Expectations and Student Achievement). This was due to the fact that some individuals thought the title, EOC - "Equal Opportunity in the Classroom", suggested other false identities and implied a different content. Later, the various interactions were formed into a model narrowed down to fifteen (Kerman and Martin, 1980), and then grouped into three separate strands with five interactions per strand (see Table 1).

TABLE 1

TESA Interaction Model

<u>Monthly Workshops</u>	<u>Strand A Response Opportunities</u>	<u>Strand B Feedback</u>	<u>Strand C Personal Regard</u>
Workshop 1	1. Equitable Distribution	1. Affirm/Correct	1. Proximity
Workshop 2	2. Individual Help	2. Praise	2. Courtesy
Workshop 3	3. Latency	3. Reasons for Praise	3. Personal Interest/Compliments
Workshop 4	4. Delving	4. Listening	4. Touching
Workshop 5	5. Higher-Level Questioning	5. Accepting Feeling	5. Desist

To implement the TESA inservice program involved scheduling five workshop sessions approximately one month apart. Each of the workshops lasted about three hours in length and emphasized three interactions, one from each of the major strands. During each workshop, emphasis was focused on recent research, discussion techniques, demonstrations, role-playing, and, most importantly, the discussion of "why these techniques are not being practiced as frequently with low achievers as with high achievers". Each workshop session was then followed-up with peer observation activities whereby the teacher could analyze his own performance according to the newly learned strategies (Kerman et al., 1979).

At the start, TESA training demonstrated that statistically significant academic gains were being made with low achieving students (Kerman and Martin, 1980). Also, substantial reductions in absenteeism and discipline referrals were surfacing, as well. Equally important to note is that all students in experimental classrooms demonstrated significant academic gains over those in control settings. Due to the levels of success that TESA training has provided for today's classrooms, its implementation continues to grow, and has gained much national recognition as being a vital component in teacher education and training (Forbes and Burkhardt, 1988; Joyce, Showers, Rolheiser-Bennett, 1987).

Initially, as TESA was being formulated, tested, and implemented into program utilization, the related studies were quantitative in nature, thereby establishing a statistical base for accessing successful outcomes (Kerman and Martin et al., 1980). However, since that time, most of the research centering on TESA has not been of a quantitative nature (Robertson, 1990). Therefore, as we enter the 1990's, the time has arrived for TESA (nearly reaching its twentieth year of implementation) to gather a fresh bank of quantitative studies to support the integrity of the program. After all, do the lessons that teachers learn and practice from TESA truly increase the overall academic achievement of students in their classrooms? Hopefully, this study will prove significant to educators in that student academic growth in the areas of math, reading, and language arts will be analyzed in relationship to those teachers who have completed a TESA inservice program and to those teachers who have not.

Purpose Statement

The purpose of this study was to compare student academic achievement levels within the areas of math, reading, and language arts with TESA (Teacher Expectations and Student Achievement) trained teachers and non TESA trained teachers. The experimental group was identified as students from grades three, four, and five who have had either one or two TESA trained classroom teachers (N=82). The control group was identified as students

from grades three, four, and five who have not had (nor had throughout this study) TESA trained classroom teachers (N=128). Both the experimental and control groups were from a small suburban school district in Nebraska. The experimental student group was from an elementary school with selected TESA trained teachers, while the control student group was from an elementary school without TESA trained teachers. Student academic achievement levels were recorded as means utilizing normal curve equivalency scores on both pre and post testing intervals using the CTBS (Comprehensive Test of Basic Skills) standardized test of basic skills.

Moderator variables for this study included age, gender, cognitive ability levels, and socio-economic factors. Other moderator variables to be analyzed included the level of educational attainment for each classroom teacher, along with their years of teaching experience.

Null Hypotheses

The following three null hypotheses were tested by using the CTBS standardized test of basic skills.

1. Students from both the experimental and control groups will show no significant differences in reading achievement due to the treatment effect.
2. Students from both the experimental and control groups will show no significant differences in math achievement due to the treatment effect.

3. Students from both the experimental and control groups will show no significant differences in language arts achievement due to the treatment effect.

Other questions to be analyzed included:

1. Will the study illustrate achievement level differences between gender groups and grade levels?
2. Will the study illustrate achievement level differences among various socio-economic levels?

Theoretical Perspective

To develop a theoretical foundation for this study, a close examination of the literature regarding teacher-student interaction behaviors and expectations needed to be analyzed.

Does student achievement appear to be affected by both passive and assertive interactions with teachers? If teachers develop motivating and supportive interactive techniques to be used equally among both low and high achieving students, will they have a major impact on increasing overall student achievement levels? The following theoretical perspective will examine these questions.

Rosenthal and Jacobson (1968) hypothesized that teachers may unintentionally behave in ways that make their expectations of student learning more likely to come true. The results of their research demonstrated that teachers' expectations may function as self-fulfilling

prophecies. Their research involved telling unsuspecting teachers that certain students in their classrooms had been identified as "late bloomers" and might be expected to make great gains in achievement during that school year. Although these children had actually been randomly selected by the researchers without any reference to potential or ability, year-end testing revealed significantly higher gains for the late bloomers.

Good and Brophy (1971) established that many teachers hold different expectations for their students, and that these expectations influence their interactions with these students. Their research in the past twenty years has included such topics as behavioral expressions of teacher attitudes, pupils that teachers call on most, changing teacher and student behaviors, classroom expectations, communication of teacher expectations, teachers' communication of differential expectations for classroom performance, teacher-student interactions, and process-product relationships (Wilson, 1986). They developed a model describing the processes underlying teacher expectation effects. The model appears as follows:

1. The teacher expects specific behavior and achievement from particular students.
2. Because of these varied expectations, the teacher behaves differently toward different students.

3. This treatment communicates to the students what behavior and achievement the teacher expects from them and affects their self-concepts, achievement motivation, and levels of aspiration.
4. If this treatment is consistent over time, and if the students do not resist or change it in some way, it will shape their achievement and behavior. High expectation students will be led to achieve at high levels, whereas the achievement of low-expectation students will decline.
5. With time, students' achievement and behavior will conform more and more closely to the behavior originally expected of them (Brophy and Good, 1974).

Rosenthal and Rubin (1978) examined influences on the formation of expectations, identified specific teacher behaviors and student-teacher interactions associated with different expectations, and investigated the relationship of these students' performance outcomes. After studying over three hundred and forty teachers, they were able to conclude that seventy percent demonstrated a direction that confirms an expectation influence.

Brophy and Good et al. (1974) observed that teachers are at times unaware of their behavior and that inappropriate teacher behaviors are neither deliberate nor even conscious by the teachers involved. Regardless of the teachers' intentions, researchers have nonetheless re-

vealed several observable instances where teachers have communicated low expectations to students. For example, some teachers seat slow students far away from them, making it more difficult to monitor their work or treat them as individuals (Daly and Suite, 1982). Many teachers pay less attention to slow students by smiling and making eye contact less often (Chaiken, Sigler, and Derlega, 1974), and call on slow students less frequently to answer classroom questions (Good and Brophy et al., 1971). Sometimes teachers do not use as much waiting time for slower students as they do the higher students (Rowe, 1986), nor do they provide clues or ask follow-up questions to problems as much as they might do for the higher students (Kerman, 1979). Other areas in which teachers may interact negatively to slow achieving students include: criticizing slower students more frequently for incorrect answers (Brophy, 1979), praising slower students less often for correct responses (Evertson, Brophy, and Good, 1973), giving slower students less accurate and less detailed feedback (Good and Brophy, 1971), demanding less effort and less work from slower students (Mendoza, Good, and Brophy, 1972), and interrupting the performance of slower students more frequently (Brophy and Good et al., 1974).

Research has shown that teacher-student interactions vary as a function of student's sex, actual or expected

level of achievement, ethnicity, and socio-economic status. As to interaction differences between the sexes, boys received more positive and negative teacher behaviors in both the verbal and non verbal levels than girls (Good, Sikes, and Brophy, 1973). Another study illustrated that although boys and girls received equal amounts of failure feedback, the boys' failure feedback was significantly more often attributed to lack of ability. Also, Bank, Biddle, and Good (1980) found that girls initiated significantly more interactions with teachers, whereas boys more frequently misbehaved.

MacMillan and Morrison (1980) found that social rejection by peers of mildly handicapped students who had been mainstreamed was related to the teachers' perceptions of these students. Khilief (1976) found that teachers of slow learners often distanced or detached themselves from the work assigned to these special students. Often the sixth-grade teachers were observed using sarcasm, berating, shaming, and excessive non-goal related interactions with slow learners.

Children's prior achievement also exerted substantial influence on expectations (Lockheed, 1976). For average students, high teacher expectations were estimated to increase achievement as much as one standard deviation when compared with similar students for whom teachers held low expectations. Cooper (1979) suggested that expectations based on prior achievement may serve to

sustain performance at a pre-existing level rather than altering behavior. His concern was that students may maintain below average performance through teacher expectations effects rather than reach the potential of which they are capable.

Wilson (1978) found that stereotypes about Native Americans affected various teacher expectations of Indian children. An examination of teacher-student interactions in integrated classrooms including Mexican-American students showed that Anglo-Americans received more teacher affirmation following correct responses than Mexican-Americans (Buriel, 1983). Haskins (1983) conducted a study of nineteen classrooms to determine whether interclass ability grouping interfered with the academic development of low income and minority students. He found disproportionate numbers of white students in the high groups and of black students in the low groups. Also, he found that students whose prents were unemployed or received government aid were more than three times as likely as other students to be placed in low ability groups.

Whether ethnicity, sex, socioeconomic status, or prior achievement is the basis for forming expectations, the result has been that students perceived as low achievers often develop increasingly negative self-perception with declining self-expectations for success (Proctor, 1984). There seems to be a close relationship

between teacher expectations and treatment, and students' self-expectations and, eventually, achievement levels.

To summarize, student achievement appears to be affected by both passive and assertive interactions with an individual's teacher. If, indeed, teachers can develop appropriate motivating and supportive interactions-techniques to be used equally among both low and high achieving students, then they can have a major impact on increasing overall student academic and achievement levels in their classrooms.

Definition of Terms

The following definitions were taken from Phi Delta Kappa's Teacher Expectations Student Achievement (TESA) manual (Kerman and Martin et al., 1980).

1. Interaction Model - The TESA design-program that improves teacher-student interaction in a classroom setting.
2. Response Opportunities - Strand A of the TESA interaction model which emphasizes the areas of equitable distribution, individual help, latency, delving, and higher-level questioning.
3. Feedback - Strand B of the TESA interaction model which emphasizes the areas of affirmation, praise, reasons for praise, listening, and accepting feelings.
4. Personal Regard - Strand C of the TESA interaction model which emphasizes the areas of proximity, courtesy, personal interest, touching, and desisting.

5. Equitable - This refers to the balance of attention rendered to areas within the three major strands of the TESA interaction model.
6. Academic Performance - This is defined as level of achievement according to normal curve equivalent on the CTBS/4 test of basic skills in the areas of math, reading, and language arts.

Delimitations

1. For the pre and post testing sessions, only the math, reading, and language arts sections of the CTBS/4 standardized tests were utilized.
2. Only those students in grades three, four, and five in both the control and experimental groups were used as subjects.
3. Both the control and experimental groups were from the same school district.

Limitations

1. The various classroom settings and administrations of both the control and experimental groups differed due to separate building sites and facility design.
2. Control group teachers may have had some contact with the experimental group teachers throughout the study period.
3. All students in both the control and experimental groups were from a predominantly homogeneous cultural and racial ethnicity.