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AN INVESTIGATION OF EXPERIMENTALLY INDUCED EXPECTANCY IN SECONDARY SCHOOL COOPERATING TEACHERS OF STUDENT TEACHING AT CENTRAL MICHIGAN UNIVERSITY

by

Thomas Peter Kromer

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ABSTRACT

AN INVESTIGATION OF EXPERIMENTALLY INDUCED EXPECTANCY IN SECONDARY SCHOOL COOPERATING TEACHERS OF STUDENT TEACHING AT CENTRAL MICHIGAN UNIVERSITY

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Thomas Peter Kromer

THE PROBLEM

Robert Rosenthal and his associates have shown that one person's expectation for another's behavior can quite unwittingly affect the outcome of that behavior (Rosenthal & Jacobson, 1968). This self-fulfilling prophecy or expectancy effect has been studied in various laboratory conditions and in elementary and secondary school classrooms. The problem in this study was to test Rosenthal's self-fulfilling prophecy in the practical setting of Central Michigan University's student teaching program.

PROCEDURES

Twenty student teachers were randomly selected from each of Central Michigan University's five secondary student teaching centers during the winter semester of 1972. Half of the student teachers were randomly assigned to the experimental group and the remaining student teachers were assigned to the control group.

The cooperating teachers of those student teachers in the experimental group were given positive expectancy data while the cooperating

teachers of those student teachers in the control group were given no expectancy data.

In the context of this study an attempt was made to measure three variables: the ability of student teachers to teach; the student teacher's confidence in his own ability to teach; and the attitudes student teachers have toward young people. The Rating Scale for the Evaluation of Student Teachers was selected to measure the ability of student teachers to teach. The Confidence Level Inventory for Teaching was used to measure the student teacher's confidence in his own ability to teach. The Minnesota Teacher Attitude Inventory was utilized to measure the student teacher's attitude toward young people.

Campbell and Stanley's post-test only control group design was employed in this study. Finn's two-way multivariate analysis of variance program was used to analyze the data. The five percent level of confidence was arbitrarily chosen for significance tests.

ANALYSIS OF RESULTS

A significant difference existed between two of the secondary student teaching centers using the Confidence Level Inventory for Teaching as the dependent variable ($p < .05$).

The main expectancy effect was not statistically significant although with ($p < .068$) the results were in the direction predicted by Rosenthal.

CONCLUSIONS

As a result of this study the writer is not willing to totally eliminate the possibility that the expectancy effect exists.

ACKNOWLEDGMENTS

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

In this chapter the problem is introduced, the problem is stated, the need for the study is developed and the purposes of the study are specifically stated. The research hypotheses are given and certain terms are defined. The chapter is concluded with an overview of the study.

Introduction to the Problem

The student teaching program at Central Michigan University has been in existence for over 50 years. During this period no systematic effort has been made to analyze its effectiveness. Changes were made through the years as the need arose and as personnel responsible for the program changed. There was no systematic evaluative study with the resultant data to support these changes.

Initially, student teachers spent half days student teaching in the local Mount Pleasant area and the remainder of the day taking courses on campus. As the number of students increased, the local area could no longer accommodate all of the student teachers and so an 8-week program of full time student teaching was developed in several residential centers located throughout the lower portion of Michigan. This arrangement has prevailed up to the present time.

The major concern with the 8-week program seemed to be the lack of correlation of the theory courses with the practical experiences gained in the student teaching program. Many professors believed that the single most important aspect of teacher preparation was the concurrent theory classes taught during the student teaching experience. Others felt that very little theory was needed and that the experience of student teaching itself--the interaction of the student teacher with his cooperating teacher and with his own classes was sufficient to produce a successful student teaching experience.

In an attempt to find out who or what does influence the student teacher's performance the most during his student teaching experience, Poleszak (1964) found that student teachers thought that the cooperating teacher exerted the most influence on them.

If Poleszak and others are correct in their statements that the cooperating teacher exerts the most influence on student teachers, then perhaps one of the best ways to insure a successful student teaching experience is for the university coordinator to concentrate his efforts at changing the cooperating teacher's perceptions of his student teacher rather than providing more course work or additional extra-classroom activities for the student teacher.

Statement of the Problem

The problem of this study is to test Robert Rosenthal's self-fulfilling prophecy hypothesis in the practical setting of an on-going secondary student teaching program at Central Michigan University.

Purpose of the Study

The purpose of this study is to determine what effect experimentally induced expectancy in cooperating teachers has on the perceived performance of their respective student teachers. In addition the study will determine whether the student teacher's confidence for teaching is affected by the inducement of these expectancy data and whether these expectancy data will affect his score on the Minnesota Teacher Attitude Inventory Test.

Need for the Study

Robert Rosenthal and his associates have shown that one person's expectation for another's behavior can quite unwittingly affect the outcome of that behavior (Rosenthal & Jacobson, 1968). Rice (1929) and Harvey (1938) in separate experiments found evidence that the expectations of interviewers had a pronounced effect on the client's response.

B. A. Wysocki (1957) noted that experimenter expectations of their subjects' interpretation of inkblots affected the number of different interpretations given by the subject.

Alex Bavelas reported in Pygmalion in the Classroom (Rosenthal & Jacobson, 1968) that in an industrial plant in the early 1950's that foremen tended to evaluate the performance of female workers on their suspected ability as reported on falsified test scores. Those women that the foremen expected to have high performances actually did although their real test scores were varied from high to low.

This "expectancy effect" has been studied by Rosenthal and Jacobson (1968) in a classroom situation. Thorndike (1968) attacked the basic data used in this study, and others could not replicate many of Rosenthal's experiments. While not all investigators have been able to show the transmission of this expectancy effect from one person to another, it must be emphasized that the effect has been demonstrated in a number of studies. More research is needed to determine under what circumstances the transmission of this expectancy effect is most likely to occur (Barber & Silver, 1968).

Hypotheses

Hypothesis 1

There will be no significant difference in mean total score on the Rating Scale for the Evaluation of Student Teachers between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

This hypothesis is a test of the expectancy effect which has been experimentally demonstrated (Rosenthal & Fode, 1963; Rosenthal & Lawson, 1964; Cordaro and Ison, 1963; Larrabee & Kleinsasser, 1967; Adair & Epstein, 1968; Cooper, Eisenberg, Robert & Dohrenwend, 1967; Rosenthal & Jacobson, 1968; Blakey, 1970; and Haskett, 1968).

Hypothesis 2

There will be no significant difference in cooperating teachers' mean total rating scores on the Rating Scale for the Evaluation of Student Teachers in the five secondary student teaching centers.

Hypothesis 3

There will be no significant interaction effect between treatment and location as measured by the Rating Scale for the Evaluation of Student Teachers.

Hypothesis 4

There will be no significant difference in mean total score on the Confidence Level Inventory for Teaching between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

Hypothesis 5

There will be no significant difference in student teachers' mean total scores on the Confidence Level Inventory for Teaching in the five secondary student teaching centers.

Hypothesis 6

There will be no significant interaction effect between treatment and location as measured by the Confidence Level Inventory for Teaching.

Hypothesis 7

There will be no significant difference in mean total score on the Minnesota Teacher Attitude Inventory between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

Some research (Kester, 1969) suggests that students who have had positive expectancy data provided have developed more positive attitudes toward themselves, toward school, toward fellow students and toward the teacher.

Hypothesis 8

There will be no significant difference in student teachers' mean total scores on the Minnesota Teacher Attitude Inventory in the five secondary student teaching centers.

Location was never treated as a variable in the research reviewed. This writer thus included the location hypotheses 2, 5, and 8.

Hypothesis 9

There will be no significant interaction effect between treatment and location as measured by the Minnesota Teacher Attitude Inventory.

Definitions

1. Self-fulfilling prophecy--A description of how one person's behavior can quite unwittingly become a more accurate prediction of another's behavior simply because the prediction was made. In other words our predictions of a person may itself be a factor in determining the behavior of another.

2. Teacher expectancy--The perceptions that a teacher holds toward his students that serves as a partial determinant of the behavior of those students.

3. Expectancy data--Information provided to cooperating teachers of the experimental group that is designed to leave a positive perception of the student teacher in the mind of the cooperating teacher.

4. Cooperating teacher--A regular teacher in a school that is cooperating with Central Michigan University's Student Teaching Program under whose guidance students observe, tutor, and guide the learning activities of a group of secondary students.

5. Student teacher--A student at Central Michigan University who is placed in a public or private secondary school (grades 7-12) and accepts increased responsibility for directing the learning activities of a group of learners over a period of time.

6. Coordinator or Secondary Coordinator--An individual employed by Central Michigan University to work with cooperating teachers and student teachers in a secondary teaching center so that the greatest possible value can be derived from the student teaching experience.

7. Secondary student teaching center--A student teaching center operated by Central Michigan University and supervised by a coordinator that places student teachers only in grades 7-12.

8. Confidence for teaching--A belief in one's ability to teach. This would include a basic grasp of the subject area(s) taught and adequate methods for teaching the subject(s).

Overview of the Study

Chapter II contains a review of the recent literature concerning teacher expectancy (1960 to the present). The reader will be introduced to literature dealing with the expectancy effect in the areas of animal behavior, non-classroom studies employing human subjects and classroom studies.

The research design (population, sample, procedures, criterion instruments, design, method of analysis and level of significance) is discussed in Chapter III. The analysis of results are presented in Chapter IV. Chapter V includes a summary, conclusions, and implications for further research.

CHAPTER II

Background of the Study

The central proposition of this thesis is that one person's prophecy of another person's performance can come to determine that other's performance. In particular, if teacher expectancy and pupil achievement are closely related, then it seems that teachers could affect the achievement of their pupils markedly by having positive expectations of their potential.

Chapter II contains a review of recent (1960 to the present) literature concerning the "self-fulfilling prophecy" in education. A few general statements from the literature about what seems to be true concerning the transmission of the expectancy effect will be explored. The studies included in this chapter that least approximate the conditions of the present study are presented first. Those studies that more closely approximate the conditions of the present study follow. A brief discussion of the literature completes the chapter.

Transmission of the Expectancy Effect

While conflicting studies abound dealing with the self-fulfilling prophecy, the following generalizations seem to be accepted as true by most researchers in the field:

1. Less experienced experimenters seem to be most likely to carry the expectancy effect (Kish, 1962; Barber and Silver, 1968; Ingraham and Harrington, 1966). Rosenthal is the one major researcher in the field that disagrees. He feels that experienced experimenters were more likely to influence their research because they were more ego involved with their research and thus were "better biasers" (Rosenthal, 1967).

2. Expectancy effects are passed by both verbal and non-verbal cues (Rosenthal, Fode, Friedman and Vikan-Kline, 1960; Blakey, 1970).

3. The warmth of an experimenter appears to have a consistent effect on the outcome of data. Warm experimenters influenced their data more than experimenters perceived as being less warm (Reece and Whitman, 1962; Rosenthal, Kohn, Greenfield and Carota, 1965).

4. Sex of the experimenter seems to have little effect as a significant variable in expectancy studies (Miller and Solkoff, 1965; Hill and Stevenson, 1965; and Sarason and Minard, 1963).

5. The expectancy effect is difficult to demonstrate in relatively structured tasks (Ingraham and Harrington, 1966; Barber and Silver, 1968; Gillingham, 1969).

6. The transmission process takes the following form:

> "(a) The student experimenter attended to the expectancy communication from the principal investigator. (b) The experimenter comprehended the expectancy communication. (c) The experimenter retained the communication. (d) The experimenter (intentionally or unintentionally) attempted to transmit the expectancy to the subject. (e) The subject (consciously or unconsciously) attended to the expectancy communication from the experimenter. (f) The subject (consciously or unconsciously) comprehended the experimenter's expectancy. (g) The subject (consciously or unconsciously retained the experimenter's expectancy. (h) The subject (wittingly or unwittingly) acted upon (gave responses in harmony with) the experimenter's expectancy." (Barber and Silver, 1968, p. 25)

It is hoped that these points will assist the reader to understand the research that follows.

Review of the Literature

Rosenthal and Fode (1963) reports that a class of 12 students in experimental psychology worked with 60 ordinary rats employing an elevated T-shaped maze. Each animal's task was to learn to run to the darker arm of the maze. Half of the students were told that their rats through a succession of inbreeding were maze bright--that they had developed a facility for learning how to run the maze. The other half of the students understood that their rats were maze dull animals.

The results showed that those animals believed to be better performers actually became better ($p = .01$). After the experiment ratings of attitudes of the students showed that those students that expected better performance viewed their animals as brighter, more pleasant, and more likable. They also reported that they handled their rats with greater frequency and also more gently than did those students that expected poor performance.

In a similar experiment employing Skinner Boxes (Rosenthal and Lawson, 1964) animals that were expected to show superior performance actually performed better ($p = .02$).

Cordaro and Ison (1963) employed a total of 17 experimenters in a conditioning experiment with 34 planaria. Five experimenters were led to believe that their worms had already been taught to make turning and contracting responses. Five experimenters were led to believe that their

worms had not been taught to make these responses. The remaining seven experimenters were given opposite expectations--one for each of the two worms they had. In all cases the performance of the worms was as expected by the experimenter ($p < .005$).

Larrabee and Kleinsasser (1967) used five experimenters to administer the "Wechsler Intelligence Scale for Children" to 12 sixth graders of average intelligence. Each subject was tested by two different experimenters, one of which expected the subject to be above average in intelligence. The other experimenter expected the child to be of below average intelligence. On the verbal part of the test the average difference was more than 10 points ($p < .05$).

In a study dealing with person perception, 10 students in psychology acted as experimenters. Each experimenter had 20 subjects. His task was to show a series of 10 photographs of people's faces to each of his subjects individually. Each subject was to rate the degree of success or failure shown in each of the photographs. Each face could be rated from (-10) showing extreme failure to (+10) signifying extreme success. The photos had been selected so that they would be seen as neither successful nor unsuccessful.

All experimenters were given explicit directions on how to administer the task and each were given identical instructions to read to their subjects. Their alleged goal was to duplicate results already well established. Half of the experimenters were told that the photos would be rated as successful (+5) while the remaining half were told that the photos would be rated as unsuccessful (-5). Results showed

that the experimenters tended to get the results that they expected (Rosenthal & Fode, 1963, b).

Adair and Epstein (1968) replicated this study using taped instructions with the same results.

Another study was conducted by Cooper, Eisenberg, Robert and Dohrenwend (1967) to determine whether experimenter expectancy might not explain the outcome of "preparatory effort on belief in the probable occurance of future events" better than Yaryon and Festinger's dissonance theory. Each of 10 experimenters contacted 10 subjects. Half of the subjects were required to memorize a list of 16 symbols and definitions that were supposed to be essential for the successful completion of an exam that had a 50-50 chance of being given. The other half were asked to only look at the list. Half of the experimenters were led to believe that the subjects who memorized would be more certain of actually having to take the test while the other half of the experimenters were led to believe that those subjects that only looked at the list would be more certain of actually having to take the test. The results showed that the effects of the experimenters' expectancies were more than 10 times greater than the effects of preparatory effort.

In all of the preceding studies a grand experimenter deliberately gave other experimenters an expectancy condition regarding an experiment. In most cases only one simple expectancy condition was given allowing an expectancy set to be developed by the experimenters and thus possibly contaminating the data. Praise from the grand experimenter was obtained only if the expectancy effect was demonstrated by the experimenters.

The writer feels that these studies are of limited value in helping to explain the self-fulfilling prophecy effect in a more uncontrolled classroom setting.

Research increasingly supports the position that the slower pupil's lack of success functions as a self-fulfilling prophecy. Riesman (1962) states that teachers underestimate the intelligence and intellectual curiosity of these children and therefore formulate too low expectations of them.

Davison and Long (1960) found confirmation for their hypothesis that there exists a positive relationship between favorable perception of teachers feelings and good academic achievement.

Asbell (1965) quoted a Milwaukee teacher as pointing out, "A child does what is expected of him," in explaining why a child might make considerable progress under one teacher, and none under another. He found teachers using the self-fulfilling prophecy to disdain responsibility for the non-achievement of their students.

Wilcox (1967) states that the ....."non-achievement of the students is viewed as a mere fulfillment of the self-fulfilling prophecy" (p. 178). He views the raising of pupil expectancies of these teachers as essential for the successful achievement of their students.

Perhaps the single most important study dealing with the idea that one person's expectations has a pronounced effect on another's behavior is Pygmalion in the Classroom (Rosenthal & Jacobson, 1968).

Working in a single elementary school (grades 1-6), Rosenthal and Jacobson administered the "Flanagan Test of General Ability" to all students in May, 1964. The teachers were told that this test was the "Harvard Test of Inflected Acquisition". The authors then randomly selected approximately 20% of the students and told the teachers in September, 1964, that the test had indicated that these students were about to experience an intellectual growth spurt. Further testing took place in January of 1965 with the main post-test in May of 1965 and the last post-test in May of 1966.

The expectancy effect was significant at the lower levels (grades 1 and 2). Boys tended to spurt more than girls. The authors concluded that apparently teachers did communicate an expectation of performance to some students and that this expectation is what accounted for their gains on the post-test. They conceptualized that the "quality of interaction" between teachers and "spurters" probably made the difference.

In view of recent criticism (Thorndike, 1968; Claiborn, 1969; Jose', 1969; and Elashoff & Snow, 1970) of Rosenthal and Jacobson's study one must continue to question the existence of teacher influence. Thorndike (1968) on page 711 concluded that the basic data were "...so untrustworthy that any conclusions based upon them must be suspect". Claiborn (1969) replicated parts of the Rosenthal study and found no statistically significant differences on the hypothesis tested in both studies. Elashoff and Snow (1970) suggests that Rosenthal and Jacobson's treatment of data is inadequate.

Taking the strength of Rosenthal's convictions and the equally sure statements of his critics together has left the writer confused.

It seems that Rosenthal and Jacobson may be guilty of what they have warned us about....experimenter bias.

Jose' (1970) in a partial replication of the study by Rosenthal and Jacobson (1968) attempted to answer two questions: (1) Does false information given to a teacher affect a student's IQ and achievement test scores? (2) Does the teacher's behavior change toward those students for whom false information was given?

Eighteen teachers (9 first and 9 second grade) and 144 students (8 from each classroom) were selected at random and randomly assigned to experimental and control groups. The "Test of General Ability" (Flanagan, 1960) and the reading and arithmetic sub-tests of the "Metropolitan Achievement Test" were administered as in Rosenthal and Jacobson's study.

No statistical significance was found for treatment by sex of student; by grade level interaction; or by grade level for IQ, reading achievement or arithmetic achievement.

Interaction analysis showed that there was little or no difference in teacher behavior towards either the experimental or control groups.

While the outcome of this investigation seems to differ sharply from that of Rosenthal and Jacobson (1968), in actuality it may not. Jose' in a follow up to the study learned that most of the participating teachers had known the students involved in the study and did not expect them to improve even though the test indicated they would.

Jose' continued by relating..."It seems possible from this that it is not the theory of expectancy that is questionable. Rather the means by which the establishment or modification of the expectancy is attempted should be questionable." The writer thus interprets Jose' to say that the lack of significance in his study lies not so much with expectancy theory but with his own failure to establish a believable expectancy condition.

Goldsmith and Fry (1971) in an attempt to establish teacher's attitude as a developmental reading tool studied 112 tenth grade students in New Jersey. "STEP Reading Test" and the "TOGA IQ Test" were used as pre-tests. Teachers were given a falsified high score on the students in the experimental group.

The high expectancy did not make a significant difference in IQ or reading achievement scores. Although the expectancy effect was not significant, Goldsmith and Fry suggest that perhaps..."the complexity and brevity of the student-teacher interaction, varying interpretations by teachers of the high bias prediction, the inclination of adolescents to take models from the peer group rather than from adults"...may have resulted in the diminished expectancy effect.

Blakey (1970) found a significant relationship between teacher's prophecies and achievement in his study of an adult basic education program. Flander's observation techniques were employed to record the verbal cue data from the teachers for a 10-week period. The study suggested that in addition to verbal cues the teachers also used more indirect influence with their students to communicate their expectancy.

The relationship between teachers expectancy and changes in pupil personality adjustment and classroom behavior was explored by Havlin (1969). Eighty-eight first and second graders were assigned to four groups. Group I consisted of those students who were identified by both teachers and test scores as most likely to improve their behavior. Group II consisted of those students who had been identified by test scores alone to probably improve their behavior. Students identified as probably improvers by teachers alone made up Group III and Group IV consisted of those students who were not expected to change their behavior.

Change scores were analyzed and no significant group differences were found. Havlin concluded that if expectancy exists that it may be more difficult to establish and to measure than was anticipated.

In studying the expectancy phenomenon between 23 selected junior high teachers of mathematics and English and 150 of their students, Kester (1969) found no significant relationship between teacher expectancy and pupil's achievement or IQ, but did find a significance between teacher expectancy and the attitude that the experimental students expressed. Students in the experimental group developed attitudes more favorable toward school, the teacher, self, subjects tested and fellow students than did those students in the control group. Kester warns, however, that the difference in attitude toward the English and mathematics subjects accounted for the bulk of this difference.

Kester did find that teachers do behave differently toward those pupils who they consider to be superior. They..."are more friendly, encouraging, and accepting of the allegedly brighter students, expressing

such acceptance both verbally and non-verbally. In addition, teachers spend more time communicating to their 'superior' pupils."

In another study the relationship between teacher expectancy and pupil's academic achievement and social development was explored (Haskett, 1968). Thirty-two special education teachers along with 267 of their mentally retarded pupils participated in the study. Classes were pre-tested on the "Metropolitan Achievement Tests" and the "Syracuse Scales of Social Relations". Half of the scores were adjusted up and the other half down and were thus reported to teachers. Teachers were asked to predict the academic and social progress of their pupils. All pupils were re-tested five months later.

Canonical correlations were found for the relationship between teacher expectancy and academic achievement, between expectancy and social development and many other factors. Statistical analysis showed a significant correlation between teacher expectancy and pupil achievement ($r = .94$; $p < .001$). A similar finding was reported for social development. A further analysis revealed no significant (Pearson product-moment) relationship between teacher expectancy and pupil achievement in specific academic subjects.

Haskett noted that: "Results of this investigation suggest that teacher expectancy and pupil performance are closely related variables. The pupil who the teacher expects to achieve well does so, and the pupil of whom little is expected produces little."

Haskett further states: "Teacher expectancy tends to be generalised rather than specific, to be global rather than differentiated

between academic and social development, to be diffuse rather than preferential toward a specific academic subject. Teacher expectancy further appears to be more related to the pupil inherently, to educable mentally retarded children in general, rather than differentially adjusted to the pupil's age or IQ."

Discussion of the Literature

In this chapter studies of the self-fulfilling prophecy were reviewed. While none of the studies reviewed specifically dealt with cooperating teachers and their student teachers, similar classroom situations were explored.

The expectancy effect has consistently been demonstrated in laboratory settings and in situations where only simplified expectancy conditions are set. Practical uses of expectancy effects in classroom settings have not always been as easy to demonstrate.

It should be noted that Rosenthal and Jacobson (1968) found a significant expectancy effect at work in grades one and two, but other experts attempted to discredit their work. Blakey (1970) found a significant expectancy effect in his study of an adult basic education program. Haskett (1968) demonstrated a significant expectancy effect in classrooms for the mentally retarded.

In other studies (Kester, 1969; Goldsmith & Fry, 1971; and Jose', 1970) failed to demonstrate a significant expectancy effect in their studies, but each of these researchers blamed other causes than the expectancy theory.

From this brief discussion it can be seen that the operation of the self-fulfilling prophecy is difficult to establish and hard to understand. The writer's present study is a further attempt to demonstrate the existence of the self-fulfilling prophecy in education.

CHAPTER III

DESIGN OF THE STUDY

This chapter contains information concerning the population, sample, procedures, criterion instruments, design, method of analysis, and the level of significance.

Population

All students involved in this study were full-time seniors at Central Michigan University during the winter semester of 1972, and all were part of the regular student teaching program. All cooperating teachers were tenure teachers in Michigan Public Schools except for two teachers in a Catholic high school in Mount Pleasant, Michigan.

Sample

After the secondary centers had been determined for the winter semester of 1972, the author obtained a list of the prospective student teachers in each of the five secondary centers from the assistant director of student teaching at Central Michigan University. Twenty students were randomly selected from each of the five secondary centers. Randomization was achieved by assigning each student teacher in a secondary center a number from 1 to 33. One secondary student teaching center had 33 student teachers and thus the need for 33 numbers. Using a table of

random numbers, 20 student teachers were picked for the experimental and control groups combined. Using the table again, half of the 20 student teachers were assigned to the experimental group and the other half were assigned to the control group. This process was repeated for student teachers in each of the five secondary student teaching centers.

The results of this process gave the writer 20 student teacher-cooperating teacher pairs in each secondary student teaching center. Half of these pairs were in the experimental group and the other half were in the control group. Each cooperating teacher worked with only one student teacher during the period of this study.

Experimental and control groups of 10 were utilized to provide a sufficiently large sample size so that the assumption of normality of distribution for analysis of variance would not be a problem.

The 20 cooperating teacher-student teacher pairs thus selected represented about 60% of the total cooperating teacher-student teacher pairs in each secondary student teaching center.

Procedures

During the fall of 1971 the writer contacted all the Central Michigan University coordinators to determine how many secondary student teaching centers there would be during the winter semester of 1972. At the time of the survey, the following centers were designated: Grand Rapids, Farmington, Utica, Mt. Pleasant, and Midland.

The coordinators of these centers were approached as to their willingness to assist the author in his research and in every case agreement

was given. (Correspondence to the secondary coordinators can be found in Appendix A.) The writer's research proposal was presented to the director of student teaching at Central Michigan University and his permission was obtained for carrying out the study.

During the month of November all student teaching assignments to centers had been completed and 20 students were randomly selected from each of the secondary centers and half were randomly assigned to experimental groups and the other half were randomly assigned to control groups.

Personalized expectancy data was prepared by the author for each of the cooperating teachers who had student teachers in the experimental groups. Negative expectancy data was not provided to the control group for two reasons: (1) Assuming that the self-fulfilling prophecy was at work in the present study, the writer felt that ethically he could not willingly contribute to a negative student teaching experience. (2) The comparison that the writer wanted to test was whether providing expectancy data on student teachers affected the student teacher's performance. In other words, the comparison was between a new procedure (providing expectancy data) and the old procedure (not providing expectancy data).

The expectancy data consisted of the following items: (1) A positively falsified score on the "Minnesota Teacher Attitude Inventory" (MTAI). (2) A notice from the department of secondary education that this student teacher had successfully completed a "special" program on campus that was designed to radically improve his teaching performance. (3) A score on the "Bench-Brooks Preference Inventory" that indicated a

superior potential for teaching. (4) A partial rating of potential predicted from his high school counselor. A more detailed explanation of each part of the expectancy data follows.

The MTAI was chosen as part of the expectancy data because of its popularity. While most teachers have no real knowledge of the test, the name is familiar and is frequently used in educational literature. After consulting the MTAI manual (Cooks, Leeds & Callis, 1951), a variety of scores were used. Each score was selected to fall in the top 10 percentile ranks for secondary education majors.

The "special program" notice on university letterhead was an accurate statement. The previous year all secondary education majors at Central Michigan University experienced major changes in their secondary education curriculum. Several new courses were instituted and there was a major shift from a program of 18 hours on-campus and 8 hours taken off-campus to one in which more than 13 hours of course work could normally be taken in the off-campus student teaching center.

The "Bench-Brooks Preference Inventory" is a fictitious test based in part on the format of the ACT test. This test was explained as a device that very accurately could predict in what profession a person would excel as well as give a prediction of what his grades would be for a given professional course of study (See Appendix B).

The falsified results were typed in an official looking manner on bright pink IBM cards to make a lasting impression. A brief explanation of how to read the card and what the information meant was also included (See Appendix B).

The high school counselor's prediction was included because each Central Michigan University student's record includes this information on his application to admission. It gives positive information concerning the student teacher and looks official (See Appendix B).

In order to insure a lasting impression, all of this information was included in a bright yellow folder embossed with the words CENTRAL MICHIGAN UNIVERSITY STUDENT TEACHING PROGRAM and the University seal.

To assure that the cooperating teachers did not know they were part of an experiment dealing with the self-fulfilling prophecy, each coordinator was given specific instructions to relay to the participating teachers. This really did not present a problem as most of the teachers in the experimental groups were isolated from one another (See Appendix A).

In a further attempt to hide the fact that certain cooperating teacher-student teacher pairs were part of a research study, "The Rating Scale for the Evaluation of Student Teachers" (RSEST) was given to all five secondary coordinators for use in their secondary student teaching centers by all cooperating teachers. It was presented as a new instrument developed by the university to help them evaluate their student teachers. Each cooperating teacher in each of the five secondary student teaching centers utilized the RSEST and not just those cooperating teachers that had student teachers in either the experimental or control groups.

To avert the possibility of having a cooperating teacher talk with his student teacher about his folder and thus contaminate the data from

the study, much of the expectancy data was marked confidential. Each coordinator specifically requested that the cooperating teacher refrain from giving this information to his student teacher.

The secondary coordinators in each of the five secondary centers were asked to present the folders to those cooperating teachers that had student teachers in the experimental group. All other cooperating teachers received no materials. To insure that the material was read, each coordinator was asked to remain with each cooperating teacher until the material had been read.

The student teachers were evaluated on the RSEST by their cooperating teachers during the fourteenth week of the sixteen-week semester. The RSEST instruments were collected by the five secondary coordinators. During the fifteenth week in regularly scheduled seminars, all student teachers in the five secondary student teaching centers completed the MTAI and the "Confidence Level Inventory for Teaching" (CLIT). Each secondary coordinator explained the need for completing these instruments in terms of improving the functioning of his secondary center. All three instruments were then packaged and returned to the writer by mail.

Criterion Instruments

In the context of this study three variables had to be measured: the ability of student teachers to teach; the student teacher's confidence in his own ability to teach; and the attitudes student teachers have toward young people.

The "Rating Scale for the Evaluation of Student Teachers" (RSEST), formerly the "Rating Scale for the Evaluation of Student Teachers in Home Economics", was selected to measure the ability of student teachers to teach. The "Confidence Level Inventory for Teaching" (CLIT) was used to measure the student teacher's confidence in his own ability to teach. The "Minnesota Teacher Attitude Inventory (MTAI) was utilized to measure the student teacher's attitude toward young people. A review of each instrument follows.

The Rating Scale for the Evaluation of Student Teachers in Home Economics

In selecting the RSEST the author was swayed by Remmer's statement in Gage's Handbook of Research on Teaching (Gage, 1963, p. 329):

> "It is likely that no approach to the measurement of variables in research on teaching has been used more often than the rating method. So widespread and basic has been the use of rating methods in research on teaching that the classification of annotations in the 1,006-item annotated bibliography on teacher competence has several major headings devoted to various uses of the rating method. Since 1950 the use of rating methods has not diminished in importance or frequency."

The writer found in the RSEST a rating scale designed to be used by cooperating teachers and college coordinators to evaluate student teacher's performance. Although the RSEST was originally developed to be used in the evaluation of student teachers in the field of home economics, Gritsmacher (1967, p. 50) states:

> "...the author feels that such a diversity of colleges and universities and student teachers, cooperating teachers and college supervisors participated in this study and that the rating scale would yield similar results with other samples."

The words "in Home Economics" were deleted from the title and from the "professional attitude" section of the rating scale. The resulting rating scale was then presented by each secondary coordinator as an instrument that would be utilized from that point on to help in the evaluation of student teachers in their secondary center. Since all cooperating teachers made use of the instrument as part of their regular final evaluation procedure for their student teacher, the "Hawthorne Effect" was avoided.

Gritzmacher obviously anticipated that her rating scale would be utilized by others as she included the following information to accompany the rating scale in future use (Gritzmacher & Nelson, 1967, p. J1):

Information Designed to Accompany

Rating Scale in Future Use

> Development of the rating scale: The items in this rating scale were based on 958 critical behaviors of student teachers reported independently by college supervisors, cooperating teachers, and student teachers. The critical behaviors were then categorized and utilized in constructing a first rating scale which consisted of 112 unidimensional items. The instrument was used independently by the three groups at the conclusion of student teaching. Three hundred and ninety nine usable scales were returned and analyzed statistically. The major analysis sought to determine which items would significantly predict the student teaching grade; 35 items emerged from this analysis. These items then constituted the second stage rating scale; and the instrument was administered to a second sample. Two hundred and seventy six rating scales were returned. Cross validation was quite satisfactory; some of the results of analysis of the 35 item scale follows:
>
> | | |
> |---|---|
> | Split-half reliability | .96 |
> | Inter-rater reliability (college supervisor and cooperating teacher) | .65 |

Validity coefficient (multiple correlation of 35 items and adjusted student teaching grades to control for institutional variation)	.78
Ditto with student teaching grade as given	.73
Correlation of summed scale scores with adjusted student teaching grade	.84
Ditto with student teaching grade as given	.79
Time to complete the instrument; less than 20 minutes	64%

A copy of RSEST can be found in Appendix C.

Confidence Level Inventory for Teaching

This instrument was developed in 1967 by Jean M. LePere and Shirley A. Brehm. The instrument was designed to measure a person's self-concept in relation to teaching. The test consists of 24 items divided into six specific areas: Working with People; Establishing Classroom Climate; Planning for Instruction; Managing Instruction; Command of Subject and Teaching Materials; and Professional Qualities.

The original instrument was based upon the Michigan State University Student Teaching Evaluation Form but has undergone extensive testing and revision to reach its present stage--Form IV.

It was first developed by Lepere and Cox (1964) and consisted of 81 items. Following an item discrimination analysis, 44 items remained to constitute Form II of the instrument. In 1966 this form was administered to 179 subjects and was further reduced to 24 items. Form III was administered to 126 student teachers in the spring of 1967. On the

basis of a z-test for significance at the .05 level using r to z transformations, 22 of the 24 items remained. Czajkowski tested Form IV of the instrument on 124 subjects and found that the 24-item instrument gave results consistent with those obtained in Form I.

Pearson product-moment correlation coefficient for test scores on Form IV before and after student teaching was .61 (Smith, 1969).

A copy of CLIT can be found in Appendix D.

Minnesota Teacher Attitude Inventory

In the Handbook of Research on Teaching (Gage, 1963, p. 508) Getzel and Jackson class the MTAI as the most popular instrument for the measurement of teacher attitudes. The authors of the MTAI (Cook, Leeds & Callis, 1951, p. 3) states:

> "Investigations carried on by the authors over the past ten years indicate that the attitudes of teachers toward children and school work can be measured with high reliability, and that they are significantly correlated with the teacher-pupil relations found in the teacher's classrooms. The MTAI has emerged from these researches. It is designed to measure those attitudes of a teacher which predict how well he will get along with pupils in interpersonal relationships, and indirectly how well satisfied he will be with teaching as a vocation."

The MTAI Form A consists of 150 statements to which each subject responds--strongly agree; agree; undecided; disagree; or strongly disagree. Scores may range from -150 to +150 with the higher score representing the more desirable teacher-pupil relationship. The hand scoring method employed by the author requires that the wrong answers be subtracted from the correct answers to compute the final score.

To give a clearer description of what these scores mean to the authors of the instrument, the following are direct quotes of characteristics of teachers that the MTAI is designed to measure (Cook, Leeds & Callis, 1951, p. 3):

> "It is assumed that a teacher ranking at the high end of the scale should be able to maintain a state of harmonious relations with his pupils characterized by mutual affection and sympathetic understanding. The pupils should like the teacher and enjoy school work. The teacher should like the children and enjoy teaching. Situations requiring disciplinary action should rarely occur. The teacher and pupils should work together in a social atmosphere of cooperative endeavor, of intense interest in the work of the day, and with a feeling of security growing from a permissive atmosphere of freedom to think, act, and speak one's mind with mutual respect for the feeling, rights and abilities of others."

> "At the other extreme of the scale is the teacher who attempts to dominate the classroom. He may be successful and rule with an iron hand, creating an atmosphere of tension, fear and submission; or he may be unsuccessful and become nervous, fearful and distraught in a classroom characterized by frustration, restlessness, inattention, lack of respect and numerous disciplinary problems. In either case both teacher and pupils dislike school work; there is a feeling of mutual distrust and hostility. Both teacher and pupils attempt to hide their inadequacies from each other. Ridicule, sarcasm and sharp-tempered remarks are common."

At least three validity and reliability checks have been conducted on the MTAI. The MTAI was administered to groups of 100 unselected teachers and these scores were then correlated with three criteria: student ratings on a 50-item "My Teacher" questionnaire; principal ratings of teachers on the "Principal-Teacher Rating Scale"; and an expert of teaching effectiveness rating using a modification of Baxter's "Rating Scale of the Teacher's Personal Effectiveness".

The correlations between the pupil, principal and expert and the scores on the MTAI were .45, .49, and .46 respectively. When combined,

the three criteria gave a validity of .59 for the weighted scores and .60 for the simplified scores.

Reliability of the instrument using the Spearman Brown split-half procedure is consistently close to .90.

A copy of the MTAI Form A can be found in Appendix E.

Design

The design of this study is Campbell and Stanley's Post-test Only Control Group Design. A graphic illustration follows:

R X O

R O

'R' represents random assignment to groups; 'X' represents the exposure to an experimental treatment and 'O' represents some type of observation or measurement (Campbell & Stanley, 1963).

Method of Analysis

Analysis of data was completed at Michigan State University using a two-way multivariate analysis of variance program by Jeremy Finn on the 3600 computer. While the writer was not interested in the multivariate statistic, the Finn Program was still utilized because in addition to the multivariate statistic, it produced the three separate univariate analysis of variance statistics that were required by the writer's use of three dependent measuring instruments. In essence the program

performed three separate two-way analysis of variance problems--one for each of the writer's dependent variables--RSEST, CLIT and MTAI.

The analysis followed Hays two-way fixed model with treatments and locations as the fixed effects. A fixed model was used because the design had only "fixed" variables. This model can be seen in Figure 1.

		Treatments	
		Expectancy Given	No Expectancy Given
Locations	1	10	10
	2	10	10
	3	10	10
	4	10	10
	5	10	10

Model for two-way analysis of variance with main effects of treatment and locations

Figure 1

To better understand what a fixed variable is, the difference between random and fixed variables is explored. A random variable is one in which the levels chosen for study represent only a sample of the population of possible levels. When talking about treatment effects of a random variable an experimenter can generalize his findings to the entire population of possible levels of that variable. A fixed variable is one that had a distinct number of levels and that generalization of treatment effects cannot be attempted beyond the levels included in the study.

Analysis of variance with fixed variables involves the usual assumptions of independence of observations, equality of variance, and normality of distribution.

Normality of distribution can be violated without serious consequences as long as the total n is relatively large. Equality of variance can be violated without serious risk as long as sample sizes are equivalent. Independence of observations cannot be violated without serious consequences to results of analysis (Hays, 1963, pp. 378-79).

With a total n of 100 violations of the normality of distribution assumption even if it did occur would not be serious. Since each sample consisted of an equal number of subjects (10) a violation of the quality of variance assumption if it were to occur, would not be of overriding concern to the analysis of data. Since considerable care was taken to minimize inter-group communication and since a repeated measures design was not employed, there is no reason to believe that the independence of observation assumption has been violated in this study.

CHAPTER IV

ANALYSIS OF RESULTS

In Chapter IV a table of cell means will be presented for each dependent variable. Each hypothesis will be presented with a statement concerning whether the hypothesis in question will be rejected or not rejected. A discussion of the results of the analysis follows. A summary of the results of analysis completes the chapter.

Table 1 gives the cell means obtained in the study for the RSEST.

Table 1

Cell Means for RSEST

		Experimental	Control	Combined Exp. & Cont. for each location
Locations	1	131.40	125.40	128.40
	2	135.10	115.40	125.25
	3	146.20	139.50	142.85
	4	125.00	131.80	133.40
	5	138.10	135.00	136.55
Column Mean		137.16	129.42	133.29

The cell means obtained in the study on the CLIT are included in Table 2.

Table 2

Cell Means for CLIT

		Experimental	Control	Combined Exp. & Cont. for each location
Locations	1	190.80	168.80	179.80
	2	162.80	158.90	160.85
	3	174.90	189.10	182.00
	4	181.60	187.70	184.65
	5	181.40	175.20	178.30
Column Mean		178.30	175.94	177.12

Table 3 lists the cell means obtained in the study for the MTAI.

Table 3

Cell Means for MTAI

		Experimental	Control	Combined Exp. & Cont. for each location
Locations	1	85.50	89.80	87.65
	2	102.90	89.80	100.85
	3	60.30	102.20	81.25
	4	85.00	72.00	78.50
	5	89.90	84.90	87.40
Column Mean		84.72	89.54	87.13

Hypotheses and Results

Hypothesis 1

There will be no significant difference in mean total score on the Rating Scale for the Evaluation of Student Teachers between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

The F-ratio with one and ninety degrees of freedom was 3.415 and produced a p-value of .0679. Since the p-value associated with this F-ratio was greater than the .05 level of significance allowed by the writer, this hypothesis was not rejected (see Table 4).

Hypothesis 2

There will be no significant difference in cooperating teachers' mean total rating scores on the Rating Scale for the Evaluation of Student Teachers in the five secondary student teaching centers.

The F-ratio with four and ninety degrees of freedom was 2.173 and produced a p-value of .0784. Since the p-value associated with this F-ratio was greater than the .05 level of significance allowed by the writer, this hypothesis was not rejected (see Table 4).

Hypothesis 3

There will be no significant interaction effect between expectancy treatment and location as measured by the Rating Scale for the Evaluation of Student Teachers".

The F-ratio with four and ninety degrees of freedom was .540 and produced a p-value of .7071. Since the p-value associated with this F-ratio was greater than the .05 level of significance allowed by the writer, this hypothesis was not rejected (see Table 4).

Table 4

Source of Variance, Sum of Squares, Degrees of Freedom, Mean Squares, F-ratio, and p-value for Two-Way Analysis of Variance With Main Effects of Expectancy Treatments and Student Teaching Center Locations Using the "RSEST" as the Dependent Variable

Source of Variance	SS	df	MS	F	P
Expectancy treatments	1497.69	1	1497.690	3.4150	.0679
Locations	3811.74	4	952.935	2.1730	.0784
Treatments X Locations	946.46	4	236.615	.5395	.7071
Error	39470.67	90	438.563		

Hypothesis 4

There will be no significant difference in mean total score on the Confidence Level Inventory for Teaching between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

The F-ratio with one and ninety degrees of freedom was .2423 and produced a p-value of .6238. Since the p-value associated with this F-ratio was greater than the .05 level of significance allowed by the writer, this hypothesis was not rejected (see Table 5).

Hypothesis 5

There will be no significant difference in student teachers' mean total scores on the Confidence Level Inventory for Teaching in the five secondary student teaching centers.

The F-ratio with four and ninety degrees of freedom was 3.078 and produced a p-value of .0201. Since the p-value associated with this F-ratio was less than the .05 level of significance allowed by the writer, this hypothesis was rejected (see Table 5).

Hypothesis 6

There will be no significant interaction effect between expectancy treatment and location as measured by the Confidence Level Inventory for Teaching.

The F-ratio with four and ninety degrees of freedom was 1.628 and produced a p-value of .1741. Since the p-value associated with this F-ratio was greater than the .05 level of significance allowed by the writer, this hypothesis was not rejected (see Table 5).

Table 5

Source of Variance, Sum of Squares, Degrees of Freedom, Mean Squares, F-ratio, and p-value for Two-Way Analysis of Variance With Main Effects of Expectancy Treatments and Student Teaching Center Locations Using the "CLIT" as the Dependent Variable

Source of Variance	SS	df	MS	F	P
Expectancy Treatments	139.24	1	139.24	.2423	.6238
Locations	7076.06	4	1769.02	3.0780	.0201*
Treatments X Locations	3743.26	4	935.82	1.6280	.1741
Error	51727.95	90	574.76		

*Significant at the .05 level of confidence

Hypothesis 7

There will be no significant difference in mean total score on the Minnesota Teacher Attitude Inventory between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

The F-ratio with one and ninety degrees of freedom was .5387 and produced a p-value of .4649. Since the p-value associated with this F-ratio was greater than the .05 level of significance allowed by the writer, this hypothesis was not rejected (see Table 6).

Hypothesis 8

There will be no significant difference in student teachers' mean total scores on the Minnesota Teacher Attitude Inventory in the five secondary student teaching centers.

The F-ratio with four and ninety degrees of freedom was 1.380 and produced a p-value of .2471. Since the p-value associated with this F-ratio was greater than the .05 level of significance allowed by the writer, this hypothesis was not rejected (see Table 6).

Hypothesis 9

There will be no significant interaction effect between expectancy treatment and location as measured by the Minnesota Teacher Attitude Inventory.

The F-ratio with four and ninety degrees of freedom was 2.167 and produced a p-value of .0791. Since the p-value associated with this F-ratio was greater than the .05 level of significance allowed by the writer, this hypothesis was not rejected (see Table 6).

Table 6

Source of Variance, Sum of Squares, Degrees of Freedom, Mean Squares, F-ratio, and p-value for Two-Way Analysis of Variance With Main Effects of Expectancy Treatments and Student Teaching Center Locations Using the "MTAI" as the Dependent Variable

Source of Variance	SS	df	MS	F	P
Expectancy Treatments	580.81	1	580.81	.5387	.4649
Locations	5952.66	4	1488.17	1.3800	.2471
Treatments X Locations	9343.74	4	2335.94	2.1670	.0791
Error	97028.10	90	1078.09		

Discussion of Results

Hypothesis 1

The central hypothesis of this study was that there would be no significant difference in mean total score on the "RSEST" between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data. While the .05 confidence level was not reached, the results were in the direction predicted by Rosenthal in every secondary student teaching center with the experimental group in each center having a greater mean total rating on the "RSEST" than the control group. The results were close enough to the .05 confidence level ($p = .0679$) to merit further discussion.

Barber and Silver (1968, p. 25) outlined an "eight-step transmission process" involved in inducing experimenter influence. This process is again quoted below and will be utilized in attempting to explain the close lack of significance in hypothesis 1.

> "(a) The student experimenter attended to the expectancy communication from the principal investigator. (b) The experimenter comprehended the expectancy communication. (c) The experimenter retained the communication. (d) The experimenter (intentionally or unintentionally) attempted to transmit the expectancy to the subject. (e) The subject (consciously or unconsciously) attended to the expectancy communication from the experimenter. (f) The subject (consciously or unconsciously) comprehended the experimenter's expectancy. (g) The subject (consciously or unconsciously) retained the experimenter's expectancy. (h) The subject (wittingly or unwittingly) acted upon (gave responses in harmony with) the experimenter's expectancy."

The secondary cooperating teachers in this study correspond with the student experimenters in Barber and Silvers' discussion. The student teachers in this study correspond with the subjects in Barber and Silvers' discussion while the writer and the five secondary coordinators correspond with the principal investigator.

The cooperating teachers attended to the expectancy data as the data were personally handed to each cooperating teacher by the secondary student teaching coordinator. The secondary coordinator remained with the cooperating teacher while the material was read. The cooperating teacher comprehended the expectancy communication (at least in part) because in almost every case the secondary coordinators reported that questions were asked of them concerning the contents of the expectancy data. The writer feels that with $p = .0679$ there is some indication that the cooperating teachers retained the expectancy communication. The remaining five steps of the transmission process probably were not completed since the student teachers failed to show on the "CLIT" ($p = .6238$) and the "MTAI ($p = .4649$) that they were affected by the expectancy communication.

The writer made no attempt to reinforce the expectancy communication during the semester and made no follow-up study to determine whether the expectancy communication was retained or transmitted by the cooperating teacher or whether this communication was attended to, comprehended by, retained and acted upon by the student teachers. The failure to follow up the original study to determine whether this eight-step process was completed must be taken as a limitation of this study.

The writer, however, feels that the design does provide information on the transmission process even though a follow-up study was not completed. By having the cooperating teacher observe and rate his student teacher, the classical expectancy design was completed. By having the subjects rate themselves in addition to the cooperating teacher's ratings provides additional information about the transmission process.

The fact that the difference between experimental and control groups on the "RSEST" ratings was nearly significant ($p = .0679$) tends to show that the cooperating teachers attended to the expectancy communication, comprehended it, and retained it. The fact that there was little difference between the experimental and control groups on the "CLIT" and "MTAI" would seem to indicate that the student teachers were not affected by the expectancy communication. In other words, demonstration of the expectancy effect might not be so much the actual performance of the student teachers as it is the cooperating teachers perception of that performance.

The near significant difference between experimental and control groups on the "RSEST" may be attributed to the fact that the cooperating teachers were inexperienced researchers even though they were experienced cooperating teachers. The cooperating teachers surveyed in the study held no degree beyond the Masters level. It was concluded that few of the secondary cooperating teachers had extensive research background. The writer further attempted to keep the cooperating teachers from knowing that they were participating in an experiment.

The expectancy literature has shown that inexperienced researchers are more likely to retain and act upon the expectancy communication than experienced researchers (Kish, 1962; Barber & Silver, 1968; Ingraham & Harrington, 1966; and Gillingham, 1969).

Perhaps this is why the cooperating teachers of the experimental group retained and acted upon the expectancy data as demonstrated by the near significant effect on the "RSEST".

The task involved in this study of supervising student teachers is an unstructured one; that is, there are few rules that must be followed rigidly. Each supervising teacher brings his own unique background, philosophy, and motives to bear on the student teacher's development. One would be willing to generalize from the literature that the expectancy effect would be easier to demonstrate in such a setting (Barber & Silver, 1968; Ingraham & Harrington, 1966; and Gillingham, 1969).

The cooperating teachers knew the university coordinators well, looked to them for leadership and were probably inclined to believe the information that was given to them. While no direct line staff relationship existed between the cooperating teacher and the university coordinator, a difference in status existed. The close approximation to significance tends to support Barber and Silvers' findings (1968) that an expectancy effect seemed easier to demonstrate when a subordinate-superordinate relationship existed between the experimenter and the principal investigator.

Goldsmith and Fry (1971) listed the brevity of the student-teacher interaction as one possible cause of a diminished expectancy

effect. This defect was corrected in this study. The extensive periods of time that the student teacher and the cooperating teacher spent together in both formal and informal settings would easily enable all kinds of subtle verbal and non-verbal cues to be exchanged. This close relationship would seem to provide the ideal setting for the expectancy communication to flourish.

Rosenthal and Jacobson (1968) found that age seemed to be a factor in demonstrating the expectancy effect. In their study significant expectancy effects were demonstrated for those subjects in grades one and two but not for the subjects in grades three through six. Since the subjects involved in this study were of college age, their greater age may have been a retarding factor in the demonstration of the expectancy effect.

From a strictly procedural point of view occasional reinforcement of the expectancy data by the coordinators might have been sufficient to improve the demonstration of the expectancy effect to the .05 level of confidence.

In any event the writer feels that the use of positive expectancy data cannot be overlooked as a means to affect the cooperating teacher's ratings of their student teachers in a significant manner.

Hypothesis 2

There will be no significant difference in cooperating teachers' mean total rating scores on the "RSEST" in the five secondary student teaching centers. At no point in the review of the literature was

location used as a variable in a study. The writer thus concluded that no significant differences would exist between the mean total ratings of the cooperating teachers from the five secondary student teaching centers. The results of analysis tended to support this conclusion.

It must be noted, however, that with an F-ratio of 2.173 ($p = .0784$) the hypothesis was nearly rejected. The greatest differences between the total mean scores on the "RSEST" existed between secondary student teaching centers 2 (125.25) and 3 (142.85). This difference may be due to the fact that center 2 is situated in a large urban school system and the other center consists of several suburban school districts.

Central Michigan University draws nearly 76% of the student body from rural or suburban areas of Michigan (Geographical Distribution of Undergraduates and Graduates, 1971). Central Michigan University students for the most part are not familiar with urban school problems, and it would seem likely that they would have a more difficult time adjusting to urban schools as compared to rural or suburban schools.

To complicate matters Central Michigan University's secondary education on-campus curriculum does little in the way of preparing students to cope with student teaching in an inner-city school. The low mean total ratings for secondary student teaching center 2 may be a reflection of this weakness.

Hypothesis 3

There will be no significant interaction effect between treatment and location as measured by the "RSEST". While interaction effects

abound in the literature dealing with the expectancy effect, none was found in this study. It can be seen from Table 1 that the data was consistent in every secondary student teaching center with the experimental group in each center having a greater mean total rating on the "RSEST" than the control group.

Hypothesis 4

There will be no significant difference in mean total score on the Confidence Level Inventory for Teaching between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data. The reporting of scores for this hypothesis differs from the typical expectancy experiment. In a typical expectancy experiment a principal investigator provides to a second experimenter a set of expectancy data concerning this experimenter's subjects. This expectancy data usually takes the form of positively falsified information about the subjects' ability to perform a task. The second experimenter then supervises his subjects through this experimental task and reports the results of his experiment back to the principal investigator.

The procedure in this study differs from the procedure listed above in that the experimenter has no reporting function in this study. The student teachers completed the "CLIT" totally independent of the supervision of the cooperating teachers. It was the responsibility of the secondary student teaching coordinators to administer the "CLIT" and to see that they were returned to the writer.

For this reason the writer was uncertain whether the expectancy data would affect the student teacher's confidence in his ability to teach. Apparently it did not, as the F-ratio of .2423 produced $p = .6238$. The writer felt that to maximize the likelihood that the expectancy data affected the outcome of the "CLIT" scores the cooperating teachers would have to be involved in the reporting of these scores. Perhaps if the cooperating teachers had the opportunity to look over the results of the "CLIT", talk with their student teachers and then ask the student teachers to complete the "CLIT" again, the results would have been closer to those predicted by Rosenthal.

In any event the writer is pleased with the results of hypothesis 4 since it tends to show that the expectancy effect was not acted upon by the student teachers and that the breakdown of the transmission process came after step three in Barber and Silver's (1968) eight-step process. It seems to the writer that this is further evidence that the demonstration of the expectancy effect may be more a part of the experimenter's (cooperating teacher's) perception than it is of the subject's (student teacher's) actual performance.

Hypothesis 5

There will be no significant difference in student teachers' mean total scores on the "CLIT" in the five secondary student teaching centers. The fact that significant differences did exist between the secondary student teaching centers as reported on the "CLIT" came as a surprise to the writer. Using Table 2 as a guide it can be noted that the major difference occurs among secondary student teaching centers 2 and 4.

It is the writer's opinion that the expectancy data in no way influenced this statistic since the difference existed when the control and experimental groups were combined to form one group in each secondary student teaching center. In other words both the experimental and control groups were collasped together in each center to form one mean total score per center and then location comparisons were made using the combined mean total score for each center. Using the Tukey post hoc comparison test it was found that the only significant difference existed between secondary student teaching centers 2 (160.85) and 4 (184.65).

This significance of location may have been affected by any of the following:

1. An "unusual or biased" sample. Since the samples were selected at random and assignment to groups was completed in a random manner, it would seem unlikely that the selection process is responsible for the differences in the two secondary student teaching centers. The one difficulty with this argument is that the samples were chosen from groups of student teachers who had requested and had already been assigned to a particular secondary student teaching center. Any difference in the original population of a secondary student teaching center would therefore show up in even random samples from that population.

2. The manner in which the expectancy information was given. The individual secondary coordinators could have biased

the experiment by either showing indifference or by being unusually aggressive in presenting the expectancy data to the cooperating teachers. The writer in talking with the coordinators of these two secondary centers received no information that would substantiate this possibility. Both coordinators indicated that the directions from the writer were followed to the letter and that in neither center were the cooperating teachers aware that they had been involved in an experiment.

3. Inability of student teachers to adjust to an urban school system. Central Michigan University draws its students largely from suburban and rural areas of Michigan. Central Michigan University's total Michigan enrollment for the 1971-72 academic year was 14,439. One thousand five hundred and forty two came from Wayne County; 740 from Saginaw County; 737 from Genesse County and 470 from Kent County. The remainder (10,950 students) came largely from rural or suburban counties (Geographical Distribution of Undergraduates and Graduates, 1971).

Of the five secondary student teaching centers presently in operation only one center (number 2) has an urban setting. Central Michigan University student teachers from suburban or rural areas placed in an urban setting might be expected to be less sure of their ability to teach in an inner-city school. The writer hypothesizes that the significant difference between the two locations on the "CLIT" might better be accounted for in terms of the inability of student teachers familiar with

small or suburban schools being unable to fully adjust to the frustrations of working in an inner-city school system.

Hypothesis 6

There will be no significant interaction effect between treatment and location as measured by the "CLIT". There was no significant interaction effect between treatment and location as measured by the "CLIT". As can be seen from Table 2, the data were not totally consistent. That is, experimental groups in three of the centers scored higher as a group than did the respective control groups, but in the other two centers the control groups scored higher as a group than their respective experimental groups. The differences were not such that would produce significance at the .05 level.

Hypothesis 7

There will be no significant difference in mean total score on the Minnesota Teacher Attitude Inventory between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data. This was the third most important expectancy hypothesis explored by the writer. As with hypothesis 4, the cooperating teacher had no reporting function. In addition the "MTAI" was the most structured of the instruments used in the study. The term "structured" is used to imply a commercial, standardized test with explicit directions for administering, scoring and interpreting and with research to show that it is difficult to fake. The writer contends that the non-significance of this

hypothesis can largely be attributed to the structured nature of the "MTAI" and the fact that the cooperating teachers were not involved in reporting the scores.

This result of hypothesis 7 is consistent with the result of hypothesis 4 and even more strongly supports the fact that the breakdown in Barber and Silver's eight-step process came after step three and that the demonstration of the expectancy effect may be largely in the perception of the experimenter (cooperating teacher) rather than in the performance of the subjects (student teachers).

The reader may wonder why the "MTAI" was used if its structured nature would have a detrimental effect on showing the transmission of the expectancy effect. It was chosen precisely for this reason. The writer felt that if an expectancy effect was strong enough to affect the scores on the "MTAI", then a stronger case for the utilization of a built in positive expectancy effect for all Central Michigan University student teachers might be considered.

Hypothesis 8

There will be no significant difference in student teachers' mean total scores on the "MTAI" in the five secondary student teaching centers. The relatively structured nature of the "MTAI" and the fact that it is difficult to fake probably helped to account for the lack of a significant difference among the five secondary student teaching centers.

Hypothesis 9

There will be no significant interaction effect between expectancy treatment and location as measured by the "MTAI". While the interaction effect between treatment and location was not significant ($F = 2.167$, $p = .0791$), its approach to significance merits additional comment. Looking at Table 3 one can note that in secondary student teaching center 3 the control group out scored the experimental group by more than 40 points. It is this large difference that is responsible for the nearly significant interaction effect. The writer has no idea what caused the unusual scores from these samples. The groups were checked to make sure that the experimental and control groups had not been switched but no error could be found.

Summary

In Chapter IV the statistical hypotheses were restated and a decision was made whether or not to reject each hypothesis. The results of each hypothesis were discussed in reference to previous research and possible explanations for the results were given. Of the nine hypotheses explored by the writer, three dealt with the effects of administering positive expectancy data (hypotheses 1, 4, and 7). Three hypotheses dealt with the effects of location of the secondary student teaching centers (hypotheses 2, 5, and 8). The last three hypotheses dealt with interaction effects of expectancy treatment and secondary student teaching center location (hypotheses 3, 6, and 9).

While the major expectancy effect hypothesis (hypothesis 1) was not significant ($p = .0679$), the results were in the direction predicted by Rosenthal in every secondary student teaching center with the experimental group in each center having a greater mean total rating on the "RSEST" than the control group. The writer feels that periodic reinforcement of the expectancy data would have increased the demonstration of the expectancy effect in this study to the .05 level of confidence.

The location hypothesis dealing with differences among the secondary student teaching centers on the "RSEST" (hypothesis 2) approached significance ($p = .0784$). The near significant results can be explained in terms of Central Michigan University's rural and suburban oriented students being ill-prepared to cope in an urban student teaching center.

Hypothesis 5, the location hypothesis using "CLIT" as the dependent variable, can be explained in a similar manner. The student teachers in secondary student teaching center 2 (the one urban center included in this study) scored significantly lower than did the student teachers in a suburban center (center 4). While this finding was unexpected in terms of expectancy theory, the suburban-urban differences in the two secondary centers leaves a plausible explanation.

Hypothesis 8, the location hypothesis using the "MTAI" as the dependent variable, was not significant ($p = .2471$).

The expectancy effect hypotheses 4 and 7 were not significant. While contrary to the outcome predicted by Rosenthal, the combination of the results of hypotheses 1, 4, and 7 enabled the writer to hypothesize about the expectancy transmission process (Barber & Silver, 1968).

The combination showed that the cooperating teachers attended, comprehended, and retained the expectancy communication (hypothesis 1; $p = .0679$) but the student teachers did not (hypothesis 4; $p = .6238$ and hypothesis 7; $p = .4649$). In other words this study may contribute to the expectancy literature by showing that the demonstration of the expectancy effect might not be so much that the actual performance of the subjects is changed as it is the experimenter's perception of that performance that is altered.

There were no interaction effects between expectancy treatment and secondary student teaching center locations on any of the three dependent variables, but the interaction between expectancy treatment and student teaching center location as measured by the "MTAI" approached significance ($p = .0791$) because of an unusually large difference in secondary student teaching center 3 where the control group out scored the experimental group by more than 40 points.

Chapter V will include a summary of this study and conclusions and implications made from it.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FURTHER RESEARCH

Summary

The present study was conducted to examine whether Rosenthal's contention that one person's expectation for another's behavior can quite unwittingly affect the outcome of that behavior (Rosenthal & Jacobson, 1968). Specifically, the writer sought to determine what effect experimentally induced positive expectancy in cooperating teachers has on the perceived performance of their respective student teachers. In addition, the study sought to determine whether the student teacher's confidence for teaching is affected by the inducement of these positive expectancy data and whether these positive expectancy data would affect his score on the Minnesota Teacher Attitude Inventory".

The following nine hypotheses were advanced:

Hypothesis 1

There will be no significant difference in mean total score on the Rating Scale for the Evaluation of Student Teachers between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

Hypothesis 2

There will be no significant difference in cooperating teachers' mean total rating scores on the Rating Scale for the Evaluation of Student Teachers in the five secondary student teaching centers.

Hypothesis 3

There will be no significant interaction effect between expectancy treatment and location as measured by the Rating Scale for the Evaluation of Student Teachers.

Hypothesis 4

There will be no significant difference in mean total score on the Confidence Level Inventory for Teaching between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

Hypothesis 5

There will be no significant difference in student teachers' mean total scores on the Confidence Level Inventory for Teaching in the five secondary student teaching centers.

Hypothesis 6

There will be no significant interaction effect between expectancy treatment and location as measured by the Confidence Level Inventory for Teaching.

Hypothesis 7

There will be no significant difference in mean total score on the Minnesota Teacher Attitude Inventory between those student teachers whose cooperating teacher was provided expectancy data and those student teachers whose cooperating teacher received no expectancy data.

Hypothesis 8

There will be no significant difference in student teachers' mean total scores on the Minnesota Teacher Attitude Inventory in the five secondary student teaching centers.

Hypothesis 9

There will be no significant interaction effect between expectancy treatment and location as measured by the Minnesota Teacher Attitude Inventory.

Chapter II contained several statements from the literature about what seems to be true concerning the transmission of the expectancy effect. The following generalizations seem to be accepted by most researchers in the field:

1. Less exprienced experimenters seem to be most likely to carry the expectancy effect (Kish, 1962; Barber & Silver, 1968; Ingraham & Harrington, 1966). Rosenthal is the one major researcher in the field that disagrees. He feels that experienced experimenters were more likely to influence their research because they were more ego involved with their research and thus were "better biasers" (Rosenthal, 1967).

2. Expectancy effects are passed by both verbal and non-verbal cues (Rosenthal, Fode, Friedman & Vikan-Kline, 1960; Blakey, 1970).

3. The warmth of an experimenter appears to have a consistent effect on the outcome of data. Warm experimenters influenced their data more than experimenters perceived as being less warm (Reece & Whitman, 1962; Rosenthal, Kohn, Greenfield & Carota, 1965).

4. Sex of the experimenter seems to have little effect as a significant variable in expectancy studies (Miller & Solkoff, 1965; Hill & Stevenson, 1965; and Sarason & Minard, 1963).

5. The expectancy effect is difficult to demonstrate in relatively structured tasks (Ingraham & Harrington, 1966; Barber & Silver, 1968; and Gillingham, 1969).

6. The transmission process takes the following form: "(a) The student experimenter attended to the expectancy communication from the principal investigator. (b) The experimenter comprehended the expectancy communication. (c) The experimenter retained the communication. (d) The experimenter (intentionally or unintentionally) attempted to transmit the expectancy to the subject. (e) The subject (consciously or unconsciously) attended to the expectancy communication from the experimenter. (f) The subject (consciously or unconsciously) comprehended the experimenter's expectancy. (g) The subject (consciously or unconsciously) retained the experimenter's expectancy. (h) The subject (wittingly or unwittingly) acted upon (gave responses in harmony with) the experimenter's expectancy (Barber & Silver, 1968, p. 25).

Also included in Chapter II was a review of the recent (1960 to the present) literature concerning the "self-fulfilling prophecy" in education.

The expectancy effect has consistently been demonstrated in laboratory settings and in situations where only simplified expectancy conditions were set. (Rosenthal & Fode, 1963a; Rosenthal & Lawson, 1964;

Cordaro & Ison, 1963; Larrabee & Kleinsasser, 1967; Rosenthal & Fode, 1963b; and Adair & Epstein, 1968). Practical uses of expectancy effects in classroom settings have not always been as easy to demonstrate.

Rosenthal and Jacobson (1968) found a significant expectancy effect at work in grades one and two, but other experts attempted to discredit their work (Thorndike, 1968; Claiborn, 1969; Jose', 1969; and Elashoff & Snow, 1970). Blakey (1970) found a significant expectancy effect in his study of an adult basic education program. Haskett (1968) demonstrated a significant expectancy effect in classrooms for the mentally retarded.

In other studies (Kester, 1969; Goldsmith & Fry, 1971; and Jose', 1970) the writers failed to demonstrate a significant expectancy effect in their studies, but each of these researchers blamed other causes than the expectancy theory.

Chapter III included a discussion of the population, sample, procedures, criterion instruments, design and analysis of data and the level of significance.

All students involved in this study were full-time seniors at Central Michigan University during the winter semester of 1972, and all were part of the regular student teaching program. All cooperating teachers were tenure teachers in Michigan Public Schools except for two teachers in a Catholic high school.

Twenty secondary student teachers were randomly selected from each of the five secondary student teaching centers and half were randomly assigned to the experimental group and half to the control group.

During the fall semester of 1971 a survey was conducted to determine the number of secondary student teaching centers for the winter semester of 1972. Five secondary student teaching centers were designated: Midland, Grand Rapids, Utica, Farmington, and Mt. Pleasant.

The coordinators of these centers agreed to assist the writer in his research. Experimental and control groups of 10 subjects were randomly selected in each secondary student teaching center.

Personalized positive expectancy data was prepared by the writer for each of the cooperating teachers who had student teachers in the experimental groups. The expectancy data consisted of the following items: (1) A positively falsified score on the Minnesota Teacher Attitude Inventory; (2) A notice from the department of secondary education that this student teacher had successfully completed a "special" program on campus that was designed to radically improve his teaching performance; (3) A score on the Bench-Brooks Preference Inventory that indicated a superior potential for teaching; (4) A partial rating of potential predicted from his high school counselor.

In order to insure a lasting impression, all of this information was included in a bright yellow folder embossed with the words CENTRAL MICHIGAN UNIVERSITY STUDENT TEACHING PROGRAM and the university seal.

To assure that the cooperating teachers did not know they were part of an experiment dealing with the self-fulfilling prophecy, each coordinator was given specific instructions to relay to the participating teachers. To avert the possibility of having a cooperating teacher talk with his student teacher about his folder and thus contaminate the data

from the study, much of the expectancy data was marked confidential. Each coordinator specifically requested that the cooperating teacher refrain from giving this information to his student teacher.

The secondary coordinators presented the folders to those cooperating teachers that had student teachers in the experimental groups. All other cooperating teachers received no special materials. To insure that the material was read, each coordinator was asked to remain with each cooperating teacher until the material had been read.

The student teachers were evaluated on the "RSEST" by their cooperating teachers during the fourteenth week of the sixteen-week semester. The "RSEST" instruments were collected by the five secondary coordinators. During the fifteenth week in regularly scheduled seminars, all student teachers in the five secondary student teaching centers completed the "MTAI" and the "CLIT". Each secondary coordinator explained the need for completing these instruments in terms of improving the functioning of his secondary student teaching center. All three instruments were then packaged together and returned to the writer by mail.

In the context of this study three variables had to be measured: the ability of student teachers to teach; the attitudes student teachers have toward young people; and student teacher's confidence in his own ability to teach. The "RSEST" was selected to measure the ability of student teachers to teach. The "MTAI" was chosen to measure the attitudes student teachers have toward young people, and the "CLIT" was utilized to measure the student teacher's confidence in his own ability to teach.

Campbell and Stanley's (1963) Post-test Only Design was utilized in this study. Analysis of data was completed at Michigan State University using a two-way multivariate analysis of variance program by Jeremy Finn on the 3600 computer. The analysis followed Hays (1963) two-way fixed anova model.

The five percent level of confidence was arbitrarily chosen for significance tests.

In Chapter IV the statistical hypotheses were restated and a decision was made whether or not to reject each hypothesis. The results of each hypothesis were discussed in reference to previous research and possible explanations for the results were given. Of the nine hypotheses explored by the writer, three dealt with the effects of administering positive expectancy data (hypotheses 1, 4, and 7). Three hypotheses dealt with the effects of location of the secondary student teaching centers (hypotheses 2, 5, and 8). The last three hypotheses dealt with interaction effects of expectancy treatment and secondary student teaching center location (hypotheses 3, 6, and 9).

While the major expectancy effect hypothesis (hypothesis 1) was not significant ($p = .0679$), the results were in the direction predicted by Rosenthal in every secondary student teaching center with the experimental group in each center having a greater mean total rating on the "RSEST" than the control group. The writer feels that periodic reinforcement of the expectancy data would have increased the demonstration of the expectancy effect in this study to the .05 level of confidence.

The location hypothesis dealing with differences among the secondary student teaching centers on the "RSEST" (hypothesis 2) approached significance ($p = .0784$). The near significant results can be explained in terms of Central Michigan University's rural and suburban oriented students being ill-prepared to cope in an urban student teaching center.

Hypothesis 5, the location hypothesis using "CLIT" as the dependent variable, can be explained in a similar manner. The student teachers in secondary student teaching center number 2 (the one urban center included in this study) scored significantly lower ($p = .0201$) than did the student teachers in suburban center number 4. While this finding was unexpected in terms of expectancy theory, the suburban-urban differences in the two secondary centers leaves a plausible explanation.

Hypothesis 8 the location hypothesis using the "MTAI" as the dependent variable was not significant ($p = .2471$).

The expectancy effect hypotheses 4 and 7 were not significant ($p = .6238$ and $p = .4649$ respectively). While contrary to the outcome predicted by Rosenthal, the combination of the results of hypotheses 1, 4, and 7 enable the writer to hypothesize about the expectancy transmission process (Barber & Silver, 1968). The combination shows that the cooperating teachers attended, comprehended, and retained the expectancy communication as $p = .0679$ for hypothesis 1. It seems, however, that the student teachers' behavior was not affected by the expectancy communication as shown by $p = .6238$ for hypothesis 4 and by $p = .4649$ for hypothesis 7. In other words this study may be showing that the demonstration of the expectancy effect might not be so much that the actual

performance of the subjects is changed as it is the experimenter's perception of that performance that is altered.

There were no interaction effects between expectancy treatment and secondary student teaching center locations on any of the three dependent variables, but the interaction between expectancy treatment and student teaching center location as measured by the "MTAI" approached significance ($p = .0791$) because of an unusually large difference in secondary student teaching center number 3 where the control group out scored the experimental group by more than 40 points.

Conclusions

The main purpose of this study was to determine what effect the administering of positive expectancy data to cooperating teachers had on the performance of their student teachers. The writer was attempting to find a means of affecting a positive change in the behavior of student teachers by the providing of expectancy data to the cooperating teachers who worked with these particular student teachers.

Hypotheses 1, 4, and 7 taken in combination enables the writer to hypothesize about the expectancy transmission process (Barber & Silver, 1968). The combination gave some indication that the cooperating teachers attended, comprehended, and retained the expectancy communication as evidenced by ($p = .0679$) for hypothesis 1. The student teachers, however, did not receive or retain the expectancy from their cooperating teachers. At least their responses on the "MTAI" and the "CLIT" indicated that there was no significant difference between the

experimental and control groups for hypotheses 4 and 7 ($p = .6238$ and $p = .4649$ respectively).

The writer interprets this to mean that when expectancy data is transmitted to an experimenter (cooperating teacher) about his subject (student teacher) it is not the actual performance of the subject that is affected by the transmission of the expectancy data but only the experimenter's perception of their subject's performance that is affected.

If the writer's present interpretation is correct, it would seem that no direct improvement or change in student teaching behavior would result from the provision of expectancy data to all Central Michigan University cooperating teachers. It would seem, however, that the provision of positive expectancy data may be helpful in changing the attitudes of the cooperating teachers, but it would seem to have little effect on the actual behavior of student teachers. In addition the ethics of providing false data about student teachers even though this information is positive in nature would have to be considered very carefully.

Rosenthal (1967) and other experimenters apparently assumed that if experimenter influence could be demonstrated in laboratory tasks, the results could be generalized or applied to practical and more meaningful situations such as classroom settings or the student teaching setting. Except for the studies done by Blakey (1970) and Haskett (1968) this assumption seems unwarranted. Even in the present study it appears that the actual behavior of the subjects were little affected by the administering of the positive expectancy data although the experimenters'

perception of their subject's behavior seems to have been affected by the communication of the expectancy data.

The writer felt that many of the studies which demonstrated a significant expectancy effect lacked rigorous statistical methodology. Barber and Silver (1968, p. 24) states that:

> "(1) The variables to be studied and the statistics to be used should be specified in advance; (2) The level of significance should be stated in advance; (3) The data should be analyzed by some overall test such as multivariate analysis of variance; and (4) Conclusions should not be made...from the results of post hoc tests performed upon the data after an overall test has failed to reject the null hypothesis."

In the present study the suggestions of Barber and Silver (1968) were followed to the letter and thus the results should be meaningful.

Rosenthal (1967) often maximized the probability of obtaining a significant expectancy effect by (1) designing ambiguous experimental tasks; (2) using opposite sex combinations of experimenters and subjects; (3) making experimenters subordinate to the grand experimenter; (4) giving experimenters only one expectancy condition; or even by (5) paying experimenters more if their results were in the desired direction. Under a combination of those conditions, it was not surprising that a significant expectancy effect was found. In the present study in a practical student teaching setting the writer felt that these conditions usually did not exist. Perhaps the writer's inability to control all of the possible variables in the non-laboratory setting contributed to the non-significant finding of this study. Although the .05 level of significance was not reached for hypothesis 1 in this study, the writer feels that with ($p = .0679$) for hypothesis 1 that the

administering of positive expectancy data did influence the perceptions of the cooperating teachers in the experimental group. The writer is not willing at this point to write off the possibility that the expectancy effect exists.

Implications

Any replication of the present study should include a means for providing periodic reinforcement of the expectancy communication to the cooperating teachers in the experimental groups. Any further study should also include a means of testing Barber and Silver's eight-step transmission process and should include a follow-up study to determine if the cooperating teachers were aware that they were involved in a research study and whether they actually believed the expectancy data that was given to them.

Although not really a part of the expectancy question, the location hypotheses should be explored further. The student teaching department at Central Michigan University has always assumed that student teaching experiences at the various secondary student teaching centers has essentially been the same. The results of this study casts doubts on such an assumption.

Hypothesis 5 showed a significant difference existed between secondary student teaching centers ($p = .0201$) on the "CLIT" variable. Hypothesis 2 ($p = .0784$) approached significance showing that a possible difference existed between the secondary centers on the "RSEST" variable. Further studies should be designed to identify differences between the

Central Michigan University secondary student teaching centers and to determine how these differences may affect the total student teaching program at Central Michigan University.

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APPENDICES

APPENDIX A

CORRESPONDENCE

CENTRAL MICHIGAN UNIVERSITY

Dear

I am presently engaged in a research project and need the assistance of all the Central Michigan University Supervisors that have only secondary student teachers. I am conducting a "Rosenthal" type of study where I provide positive data on a student teacher to his supervising teacher and then measure the effect that this data has on the supervising teacher's rating of the student teacher. I am also interested in whether the student teacher's attitude and Minnesota Teacher Attitude Inventory score is affected.

This is how I would like you to help. I have randomly selected 10 student teachers from your center and have provided the false data to you concerning these students. I would like you to give this data to each of the supervising teachers involved in the study and stay until the material is read. The material can be read in less than two minutes. If questions develop, you only need to say that it is hoped that this material will help the supervising teacher get to know his student teacher better. It is part of the university's plan to provide the most useful information that it can about its student teachers. (Please do not mention that the material is part of a research project.)

While Dr. Quick has given his consent to this project, I know that compliance with this request will cause additional labor on your part. I can only say that I could not collect this data without your assistance.

Feel free to read the contents of one of the folders. You will note that the data provided is positive in nature and should have no detrimental effect on the performance of any student teacher.

Please distribute as early in the semester as possible. Place the folder in the supervising teacher's hand personally and privately if possible.

During the regular February on-campus meeting I would like to meet with you to discuss the simple testing procedure that I would like you to administer.

Your cooperation will be greatly appreciated.

Sincerely,

Thomas P. Kromer

MOUNT PLEASANT, MICHIGAN 48858

CENTRAL MICHIGAN UNIVERSITY

Dear

I promised that I would be getting information to you regarding the collection of data for my project. I have included in this package the three instruments that need to be completed in your center.

A. Minnesota Teacher Attitude Inventory (MTAI)
B. Confidence Level Inventory for Teaching (CLIT)
C. Rating Scale for the Evaluation of Student Teachers (RSEST)

Two of these instruments MTAI (A) and CLIT (B) are to be completed by all student teachers in a seminar situation. Both of these instruments have directions on the front page that should be read by you when you hand the instruments to your students.

Please be sure that each student include his name on his answer sheets. You will note that neither test is timed. It has been my experience that most students complete the MTAI (A) in about 30 minutes and that most students complete the CLIT (B) in less than 20 minutes. Upon completion of these instruments please return all material to me on campus.

The third rating scale RSEST (C) is to be completed by each student teacher's primary supervising teacher. It can be administered to the total group of supervisors at once or it can be given singly to each. The directions can be read by the person completing the scale. Completion time is usually less than 20 minutes. IT IS ESSENTIAL THAT I GET A 100% RETURN ON THIS INSTRUMENT.

If questions develop about the reasons for completing the instruments, simply explain that all centers are being treated in the same fashion. It is hoped that the information provided will help strengthen Central Michigan University's student teaching program.

Your assistance will be greatly appreciated.

Sincerely,

Thomas P. Kromer

MOUNT PLEASANT, MICHIGAN 48858

APPENDIX B

EXPECTANCY DATA

CENTRAL MICHIGAN UNIVERSITY

WINTER 1971-72

Dear Supervising Teacher:

In the Special Testing Program your student teacher also completed the Minnesota Teacher Attitude Inventory (although the test was not given that name). Her score of 105 places her in the top ten percentile of those that have taken this test.

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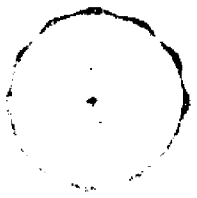
MOUNT PLEASANT, MICHIGAN 48858



CENTRAL MICHIGAN UNIVERSITY

WINTER 1971-72

Dear Supervising Teacher:

During the past year the on-campus curriculum of the Secondary Education Department has undergone extensive changes. The intent of these changes is to better prepare our undergraduate students to become capable teachers.

This letter certifies that your student teacher has completed the newly required courses and seems to show a high potential for becoming an excellent teacher.

MOUNT PLEASANT, MICHIGAN 48858

CENTRAL MICHIGAN UNIVERSITY

Winter 1971-72

Dear Supervising Teacher:

In addition to the regular student teaching profile that you normally receive concerning your student, the following information is being provided to help you get to know your student teacher better.

Your student teacher was part of a group of Central Michigan University students that took part in a special testing program that attempted to predict their performance in various professions.

Part of this prediction is included in this file on the pink IBM card. You will please note that percentile ranks are listed in two areas and that a predicted grade is also listed in each area.

<u>You will notice that on this test your student teacher seems to show outstanding potential for teaching</u>.

Bench-Brooks: partial

CONFIDENTIAL

Overall Predictions

Name of Group	Percentile Rank	Probability of "C" Grade	Predicted GPA
Elementary Ed.	94	95	3+
Secondary Ed.	94	95	3+
Liberal Arts	83	87	3+
Business Adm.	89	91	3+

MOUNT PLEASANT, MICHIGAN 48858

For **FRESHMAN** applicants only; transfer students use other side.

To be completed by the Secondary School. Information will be treated in a professional manner.

PART I. APPLICANT'S PERSONAL RECORD

1 Student's Name _____ Secondary School _____
Last First Middle

2 **Standardized Test Results.** Administered during the secondary school period. If scores not national (test publisher's) norms, please indicate.

INTELLIGENCE OR APTITUDE TESTS

Name and Form of Test	Date Given	I Q	%ile	Grade Score

ACHIEVEMENT TESTS

Name and Form of Test	Date	Grade Level Norm*	%ile	Grade Score Placement

*Grade level on which the percentile norms are based

3 **Personal Characteristics.** Rate the personal characteristics of this applicant by checking the appropriate phrase. These ratings may be either the composite judgment of several persons or the judgment of one person.

(1) PARTICIPATION IN DISCUSSION (SELF-INITIATED)
- ____ always involved, often initiates discussion
- ____ usually participates
- ____ often participates
- ____ occasionally participates
- ____ seldom participates
- ____ not applicable

(2) INVOLVEMENT IN CLASSROOM ACTIVITIES
- ____ very high in all activities
- ____ active, usually shows genuine interest
- ____ mild, politely attentive
- ____ languid, attention often wanders
- ____ distracted, does other things during class
- ____ vacillates greatly

(3) PURSUIT OF INDEPENDENT STUDY
- ____ considerable study and major project(s)
- ____ considerable study or major project(s)
- ____ some study and minor project(s)
- ____ some study or minor project(s)
- ____ no evidence of independent study
- ____ not applicable

(4) EVENNESS OF PERFORMANCE
- ____ exceptionally consistent
- ____ even, varies no more than one mark
- ____ slightly uneven, often varies one mark
- ____ uneven, often varies two marks
- ____ erratic, performance fluctuates greatly

(5) CRITICAL AND QUESTIONING ATTITUDE
- ____ often challenges
- ____ sometimes challenges
- ____ occasionally is skeptical
- ____ sometimes probes
- ____ rarely questions
- ____ not applicable

(6) DEPTH OF UNDERSTANDING
- ____ excellent insight
- ____ good understanding
- ____ some insight
- ____ little insight
- ____ poor understanding
- ____ not applicable

(7) PERSONAL RESPONSIBILITY
- ____ always accepts fully
- ____ usually accepts fully
- ____ partially accepts
- ____ sometimes refuses
- ____ often refuses

(8) CONSIDERATION FOR OTHERS
- ____ always considerate of others' rights and feelings
- ____ usually considerate
- ____ courteous, little evidence of consideration
- ____ sometimes inconsiderate
- ____ often inconsiderate
- ____ inadequate opportunity to observe

COUNSELOR COMMENTS: (Re: Emotional adjustment and readiness for College)

4 Signature _____ Position _____ Date _____

APPENDIX C

RATING SCALE FOR THE EVALUATION OF STUDENT TEACHERS

Student Teacher _____

Cooperating Teacher _____

RATING SCALE FOR THE EVALUATION OF STUDENT TEACHERS

DIRECTIONS: Read the descriptions and write the number (a whole number, no fractions) corresponding to the observed behavior of the student teacher in the box following the descriptions. Use zero when there has been no opportunity to observe a specific behavior. Please fill in the blanks at the top of this page.

NOTE: The abbreviation CT stands for Cooperating Teacher.

No observation

0	1	2	3	4	5	Rating
1 PERSONAL QUALITIES	(1) lacks enthusiasm		shows moderate enthusiasm		radiates enthusiasm	
	(2) lacks patience with students; above annoyance		usually remains patient in dealings with students		displays patience with students	
	(3) frequently mispronounces words; repeats trite expressions		generally pronounces words correctly; vocabulary is adequate		has correct pronunciation; uses varied vocabulary	
	(4) becomes upset with suggestions		usually seeks and utilises suggestions		invites suggestions and implements them	
	(5) pitches voice at irritating level		keeps voice at pleasant level most of the time		pitches voice at pleasing level	
2 LESSON PLANNING GENERAL	(6) lacks detailed planning; does not organize lesson; lesson plans are incomplete		does some detailed planning; tends to use general outline rather than detailed plans; organization is usually adequate; lesson plans are usually complete		does detailed planning; organizes content effectively; lesson plans are rarely incomplete	

No observation

0	1	2	3	4	5	Rating
	(7) overlooks pre-planning organization and/or makes unrealistic estimate of time needed for each activity		establishes a time plan for lesson but it is not always satisfactory		adequately pre-plans general timing of lesson parts	
2b LESSON PLANNING OBJECTIVES	(8) is not concerned with objectives or is concerned with his objectives and with imposing them on students		objectives are comprehensive but are not always important nor stated in student behavioral terms		objectives are important and comprehensive and expressed in student behavioral terms	
2c LESSON PLANNING PREPARATION OF QUESTIONS	(9) does not plan lead-in questions to lesson		plans questions to involve students in learning		plans well thought through questions to motivate student discussion	
2d LESSON PLANNING LEARNING EXPERIENCES	(10) plans too many experiences to fit into period or only one; learning experience often does not develop concept in depth		utilizes a few learning experiences; choice of experience not always appropriate		plans a variety of experiences by which learning can be achieved	

No observation 0	1	2	3	4	5	Rating
	(11) plans to have students involved in only one activity during class or cannot move students along so that activity can be changed		usually plans activities of varying nature to change pace during class period		recognizes and plans for a change of pace during a class	
	(12) considers general learning experiences not details plans activities that have little relationship to each other		plans learning experiences that usually increase from the simple to the complex and broad		thoroughly plans each learning experience and each builds on the former	
	(13) constructs haphazard evaluation devices; on paper and pencil tests uses "recall" type items exclusively		plans evaluative techniques carefully but some adequacies emerge		evaluation procedures are carefully thought through and measure student growth adequately	
3a USE OF MOTIVATION/ INTEREST APPROACH	(14) does not provide any motivation at beginning of period or attempts at motivation fail; does not gain attention and cooperation of students		commonly utilizes an interest approach which tends to be ordinary; occasionally exhibits creative effort in motivation; has some success motivating students		provides initial stimulus that is creative and pertinent to the topic; captures student attention and interest	

No observation

0		1	2	3	4	5	Rating
	(15)	threatens students in an attempt to motivate them; does not expect student self motivation		provides initial and occasional stimuli thereafter to motivate students; occasionally allows students to put their ideas into action		provides continual stimuli during class to motivate students and encourage them to carry through their own ideas	
	(16)	is insensitive to students' needs		is aware of students' most obvious needs		is alert to students' needs; gives incentive to individual pupils having difficulty with the work	
3b STRUCTURING OF SUBJECT MATTER	(17)	presents skimpy content; does not develop generalisations or attempts to develop too many; does not emphasise important points; superficial development of subject		usually presents adequate content for period; does not always develop generalisations to their fullest		lesson is comprehensive; focuses on a few generalisations which are developed in depth	
	(18)	exhibits concern over subject matter but not whether students understand it; does not clarify points		attempts largely by repetition to explain content that students do not comprehend		when content is not understood, goes over it again in a different way; clarifies statements	

No observation 0	1	2	3	4	5	Rating
	(19) does not interrelate parts of lesson or lessons		attempts to point out relatedness or content but this is sometimes unclear		shows relationship between parts of lesson and lessons	
	(20) unconcerned about familiarising himself with subject about which he knows little		makes an attempt to search out information to teach unfamiliar subjects		conscientiously prepares self to teach unfamiliar material by reading, visits, observations	
	(21) bluffs way through answers to questions he does not know; ignores questions; changes subject		admits lack of knowledge but neglects to find answer		admits lack of knowledge when questioned on a specific point he does not know; uses resources to answer	
3c TECHNIQUES AND METHODS	(22) plans and/or changes method little or not at all during period or plans too many activities to fit into period; or cannot move students along so that activity can be changed; individual activities incongruent w/respect to total		plans and utilizes a few meaningful learning experiences during a period; choice of experience not always the best; provides different kinds of activities for change of pace		plans and provides varied, meaningful activities to develop principles presented; provides change of pace during period	

No observation

0	1	2	3	4	5	Rating
	(23) materials are neither handy nor arranged in good order		has the minimum number of materials on hand or prepares them as they are needed during class		has necessary and appropriate materials readily available	
3d APPLICATION	(24) does not attempt to provide enough prior information or experience; students are not likely to transfer ideas and practices to the home		occasionally provides experiences in the classroom that can be carried over		provides realistic learning experiences so that students can actively transfer learnings	
3e QUESTIONS	(25) asks vague questions; minor not "meaty" ones; does not utilize lead-in questions or confines questions to items of fact students may remember		utilizes some stimulating and some dull questions, some require more teacher development		has lead, thought provoking, suitable to the lesson questions ready to ask	
4 STUDENT INVOLVEMENT	(26) fails to plan with students or plan far enough with students; does not involve students		occasionally includes students in planning		uses teacher-pupil planning when appropriate - most advantageous to student learning	

No Observation

0		1	2	3	4	5	Rating
5a Classroom Time	(27)	lesson too fast moving and material covered too slow moving and interest waning		paces lesson at adequate rate of speed		has excellent sense of pace or tempo in the lesson	
5b Student Teacher Work In Toto	(28)	requests less or is unable to assume full teaching load		adequately assumes the classes allocated to him		fully assumes the teaching load assigned to him; may go beyond expected assignment	
6 Classroom Control	(29)	permits students without work to do whatever they like which usually disrupts class		does not always have assignments planned for students without any work		has assignments ready for those temporarily out of work or not prepared to do the assignment	
7 Care of the Department	(30)	has not established nor accepted a routine for care of the department; does not allow sufficient time for clean-up at the end of the period; neglects to check room and equipment at the end of the period.		accepts unquestioningly pre-established routine for care of the department; tries to follow plans but occasionally forgets to reserve time for clean-up and supervision of process		has established a routine for care of the department; follow plans; sets aside definite amount of time at end of period for clean-up; checks room and equipment at end of period	

No observation

0		1	2	3	4	5	Rating
8a RAPPORT WITH COOPERATING TEACHER	(31)	relies excessively on CT a cannot or will not make own decisions; or ignores suggestions of CT		thinks through some problems but tends to consult CT occasionally when capable of making decisions himself		consults CT for advice after considering possible solution to difficult or unusual problem; makes and abides by decisions within his jurisdiction	
8b RAPPORT WITH STUDENTS	(32)	students are afraid to speak out in class; appears unapproachable		tries to engender in students a feeling of his approachability and his interest in them		makes students feel at ease with him; some may even bring their problems to him	
	(33)	students seek advice of CT as they do not have faith in the correctness of the student teacher's statements, directions		students usually take his word but occasionally seek verification from CT		students accept him as a knowledgeable teacher and follow his suggestions	
9 EXTRA CURRICULAR ACTIVITIES	(34)	is concerned exclusively with classroom activity or helps others in the school to a limited extent		recognizes some of the extra curricular activities that need to be done; offers and assists with some of these; participates sometimes in community activities and programs		realizes that there are many tasks to be done in a school outside the classroom and willingly helps whether it is his specific responsibility or not; exhibits interest in and takes part in community activities and programs	

No observation

0	1	2	3	4	5	Rating
10 PROFES-SIONAL ATTITUDE	(35) sometimes degrades the program		does not "talk up" the program to others; occasionally speaks of the program when others bring up the topic		uses opportunities to present the program to others	

APPENDIX D

CONFIDENCE LEVEL INVENTORY

FOR TEACHING

CONFIDENCE LEVEL INVENTORY FOR TEACHING
(For Student Teachers)

by
Jean M. LePore, Ph.D.
Shirley A. Brehm, Ph.D.

Central Michigan University

Student Name _____
(Last) (First) (Middle)

Student Number _____ Sex _____ Age _____

Previous Teaching Experience _____

The following scale is designed to help us discover some of your feelings about a number of teaching areas. The instrument also introduces the beginning student to many facets of classroom teaching. This questionnaire is moderately long. We earnestly request your cooperation in answering all items carefully.

Check each item below on the numerical scale. 1 is the low and 10 is the high end.

1 - 2 I feel extreme concern about my abilities in this area.
3 - 4 I feel greater than average concern about my abilities in this area.
5 - 6 I feel average concern about and have average confidence in my abilities in this area.
7 - 8 I feel relatively confident about my abilities in this area.
9-10 I feel extremely confident about my abilities in this area.

I. WORKING WITH PEOPLE

	1	2	3	4	5	6	7	8	9	10
1. Maintaining reasonable levels of expectations from pupils.										
2. Gaining confidence and respect of pupils.										
3. Communicating effectively with parents.										

Confidence Level Inventory for Teaching (cont.) 2

II. ESTABLISHING CLASSROOM CLIMATE	1	2	3	4	5	6	7	8	9	10
1. Adjusting appropriately between a permissive and authoritative manner in classroom situations.										
2. Demonstrating Judiciousness and fairness with all pupils.										
3. Involving pupils in appropriate decision-making situations.										
4. Working in such a manner that individual pupils seek help with personal problems.										
5. Moving to specific learning activities as group shows readiness.										

III. PLANNING FOR INSTRUCTION	1	2	3	4	5	6	7	8	9	10
1. Consistently reading, studying, and gathering information for teaching plans.										
2. Selecting appropriate teaching materials and having them immediately available for use when needed.										
3. Planning thoroughly for short-term (daily) and long-term (unit or project) work.										
4. Considering sequence and continuity of pupil experiences as key factors in learning.										
5. Recognizing individual differences in evaluating pupil performance.										

Confidence Level Inventory for Teaching (cont.) 3

IV. MANAGING INSTRUCTION	1	2	3	4	5	6	7	8	9	10
1. Directing and managing daily instruction so that pupils are interested, motivated, and shown a desire to learn.										
2. Developing a questioning attitude and intellectual curiosity in pupils.										
3. Developing effective processes of problem solving and critical thinking on the part of pupils.										
4. Working effectively with pupils of small groups.										
5. Recognizing the need for re-teaching at appropriate intervals.										
6. Dealing appropriately with unexpected situations as they develop.										
7. Adapting instruction to changing needs of pupils and class.										

V. COMMAND OF SUBJECT AND TEACHING MATERIALS										
1. Showing persistence in seeking added information and knowledge from many sources in teaching subjects.										
2. Seeking help and suggestions from specialists and consultants in subject areas where needed.										

VI. PROFESSIONAL QUALITIES										
1. Seeking opportunity to assume responsibility.										
2. Having a sincere enthusiasm for the job.										

APPENDIX E

MINNESOTA TEACHER ATTITUDE INVENTORY

Please Note:

Pages 96-101, "Minnesota Teacher Attitude Inventory," copyright 1951 by The Psychological Corporation, not microfilmed at request of author. Available for consultation at the Michigan State University Library.

University Microfilms.