EFFECTS OF OBSERVATIONAL FEEDBACK ON VERBAL AND NONVERBAL CLASSROOM BEHAVIOR OF STUDENT TEACHERS

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EFFECTS OF OBSERVATIONAL FEEDBACK ON VERBAL AND NONVERBAL
CLASSROOM BEHAVIOR OF STUDENT TEACHERS

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF EDUCATION

By

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Denton, Texas
August, 1968
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CHAPTER I

INTRODUCTION

Most educators will agree that the teacher is the key to a successful learning situation. Teacher training programs have long aimed at many facets of teacher improvement, providing cultural enrichment, assuring thorough knowledge of subject matter, and developing skills in selection, organization, and presentation of content material. Even more emphasis has been given to a sympathetic understanding of the child, to principles of learning, and to an awareness of the many complicated relationships found in every classroom.

Important as these factors admittedly are, still other considerations merit careful attention if the pre-service education of teachers is to become more effective. Recent research has focused on classroom behavior as the key to teacher influence on learning activities. Certain researchers are pointing to "... the influence pattern used by the teacher to control class activities" as being the governing element in the classroom (1, p. 576). Prescott says, "... the multitudinous daily decisions made by teachers are the fundamental bases of the educative process in our schools" (16, p. 7). Since teachers communicate their decisions
through speech and actions, verbal and nonverbal behavior, it is important that these elements be identified, described and studied.

Techniques for recording objectively and accurately the behavior of student teachers in the classroom could contribute positively to the influence of the college supervisor in providing guidance toward professional growth. Present supervisory practices are being questioned by professional observers. The elements of bias, of inconsistency, and of the lack of comprehensiveness which have been characteristic of supervision in many teacher education programs call for improved techniques in this area. One recent innovation in the field of education, a system for describing and objectively classifying different kinds of verbal behavior in the classroom, promises to help combat these deficiencies. The Flanders system of interaction analysis has been adapted for use as a training device for student teachers (12, 22). The technique is intended to give teachers a means by which their own classroom verbal behavior can be predicted and controlled, thus improving teacher influence upon pupils.

Another recent but somewhat less publicized procedure is Galloway's plan for analyzing nonverbal teacher behavior. This plan includes seven categories for tabulating observed behavior ranging from supportive to reproving or criticizing. The action of the teacher, not the speech, can be recorded through the use of this observational technique.
Statement of the Problem

The central problem of this study was to determine the effects of feedback of observations recorded by an elementary college supervisor for the verbal and nonverbal classroom behavior of elementary student teachers. The sub-problems were as follows:

1. To determine if the mean difference in the amounts of indirect verbal behavior, as tabulated during two successive observations using the Flanders system of interaction analysis would be greater among elementary student teachers who received feedback than among elementary student teachers who did not.

2. To determine if the mean difference in the amounts of direct verbal behavior, as tabulated during two successive observations using the Flanders system of interaction analysis, would be greater among elementary student teachers who received feedback than among elementary student teachers who did not.

3. To determine whether elementary student teachers who received feedback concerning their nonverbal behavior would become significantly more encouraging of pupils in the classroom than would elementary student teachers who received no feedback, as measured by the mean difference of tallies on two successive observations using Galloway’s categories of nonverbal analysis.

4. To determine whether elementary student teachers who received feedback concerning their nonverbal behavior would
become significantly less inhibiting of pupils in the classroom than would elementary student teachers who received no feedback, as measured by the mean difference of tallies on two successive observations using Galloway's categories of nonverbal analysis.

5. To determine if a relationship existed between direct and inhibiting behavior and between indirect and encouraging behavior for both the experimental and control groups, as indicated by tabulations obtained during the third observation using Flanders' system and Galloway's procedure.

6. To determine whether elementary student teachers who received a profile of their verbal and nonverbal classroom behaviors made a significantly greater positive shift in attitudes involving interpersonal relationships with children than did elementary student teachers who did not receive such a profile as indicated by pre- and post-test mean scores on the Minnesota Teacher Attitude Inventory (henceforth known as MTAI).

Hypotheses

Consistent with the above purposes the following hypotheses were formulated for statistical treatment:

1. The verbal behavior of student teachers receiving feedback will show a greater increase in indirect talk (Flanders' Interaction Categories 1, 2, and 3) between the second and third observations than will elementary student teachers receiving no feedback. (See Appendix A.)
2. The verbal behavior of elementary student teachers receiving feedback will become less direct in the classroom (Flanders' Interaction Categories 6 and 7) between the second and third observations than will elementary student teachers receiving no feedback.

3. The nonverbal classroom behavior of elementary student teachers receiving feedback will become more encouraging (Galloway's Categories 1, 2, and 3) between the second and third observations than will like behavior of elementary student teachers receiving no feedback. (See Appendix B.)

4. The nonverbal classroom behavior of elementary student teachers receiving feedback will become less inhibiting (Galloway's Categories 5, 6, and 7) between the second and third observations than will like behavior of elementary student teachers receiving no feedback.

5. The data yielded by the third observation will show a moderate positive relationship between direct and inhibiting tallies, and between indirect and encouraging tallies for both the experimental and the control groups, as shown by Pearson product-moment correlation.

6. Elementary student teachers who receive a profile of their verbal and nonverbal classroom behavior will show a significantly greater positive shift in attitudes involving interpersonal relationships with children than will elementary student teachers who do not receive such a profile, as indicated by comparative mean scores on the MTAI.
Background and Significance of the Study

Research literature dealing with attempts to measure classroom behavior began before World War I when in 1914 Horn proposed a system of symbols for recording a recitation. In 1935 Wrightstone developed a set of categories for recording pupil responses to group situations. Anderson (1939) and Anderson and Brewer (1946) were concerned with "dominative" and "integrative" responses of children (1; 2, p. 45). Frequently quoted studies were conducted by Withall (1949), Mitzel and Medley (1958) and Hughes (1959) (6).

Flanders (1960) developed a rather sophisticated technique using a ten-category system for tallying teacher influence on a timed basis (6, p. 271). In *Handbook of Research on Teaching*, Medley and Mitzel observed that although the terms used and operationally defined in the classroom behavior studies differed from one instance to another—dominative-integrative, teacher-centered versus learner-centered, hostile-supportive, direct-indirect influence—they meant the same thing. The authors noted that "... there is little question that all are referring to highly similar, even identical, dimensions of behavior, reliably measurable, and important in educational theory" (6, p. 274).

The Flanders interaction analysis system deals with verbal communication, particularly as it applies to the direct or indirect verbal influence of the teacher. Flanders found that the direct approach, illustrated by categories 6 and 7,
tends to increase student compliance with teacher opinion and direction. In such situations, however, students learn less than those working under a teacher whose behavior is more indirect, as represented by categories 1, 2, and 3. Flanders found that student achievement in mathematics and social studies was higher in classes using a more indirect approach (5, p. 95).

Interaction analysis has been used in instruction and in supervision of student teachers. Zahn (22), Moskowitz (14), Simon (18), and Kirk (12) reported a positive change in the teaching attitude of the student teacher when interaction feedback was used. The objective nature of the feedback of classroom behavior through the matrices was thought to result in a change to a more positive attitude.

Fewer investigations appeared in the literature regarding nonverbal behavior than were found concerning verbal behavior. This fact would suggest a serious oversight or fallacy on the part of educational researchers. Verbal communication constitutes only one segment of the total spectrum of human communication. Nonverbal communications of meanings, attitudes, and feelings are also highly informative. Educational training programs should include emphasis on the expressive and performative behaviors and their importance in interpersonal relations (10, p. 101). Student teachers, as well as in-service teachers, should become more sensitive to the wide range of messages which they continuously send
and receive in the classroom. Torrance found that "even though teachers say the right words, and pupils say that they perceive their teachers as having favorable attitudes, the teacher's 'real attitude' is likely to 'show through,' and to affect behavior and emotional reactions" (20). Halpin pointed out that nonverbal cues determine the course of interpersonal relations, and that verbal and nonverbal languages may contradict or reinforce each other (10). Galloway stated that "words are 'slippery customers,'" and that children "check on the fidelity of verbal statements . . . and quite frequently place greater store in the validity of the character of the nonverbal" (3, p. 59). This is especially true when it applies to the linguistically disadvantaged youngster.

A variety of studies have shown that individuals are responsive to any or all of a number of cues. Some respond best to linguistic cues, while others are more sensitive to nonlinguistic cues. Results of a study by Shapiro were pertinent to this concept. "Some individuals respond on a consistent basis more to signs originating in the facial expression and others to signs originating in the words of the individual" (17, p. 15). Shapiro has also shown that individuals often do communicate unrelated emotional messages with their words and their faces.

The Galloway procedure is a system for classifying and analyzing the classroom teacher's nonverbal communication.
The procedure uses seven categories, as follows: 1) enthusiastic support, 2) helping, 3) receptivity, 4) pro forma, 5) inattentive, 6) unresponsive, and 7) disapproval. The sum of categories 1, 2, and 3 represents encouraging teacher behavior, while the sum of categories 5, 6, and 7 represents inhibiting teacher behavior. The attitudes and meanings of nonverbal messages sent by teachers "can be inferred by observers with reliability" (7, p. 138). Thus, there is available a technique that can be used with student teachers to sharpen, alter, and modify the attitudes and meanings that they transmit nonverbally to pupils.

This background of the study suggested the need for further serious research involving behavior of student teachers. A review of educational reference sources, including Education Index (1950-1968), Dissertation Abstracts (1955-1966), The Journal of Educational Research (1955-1968), The Handbook of Research on Teaching edited by N. L. Gage (1963), Encyclopedia of Educational Research (1960), and the Review of Educational Research (1955-1968), revealed many studies of the verbal behavior of teachers. No research, however, has been reported dealing with the effects of feedback on the verbal and nonverbal behaviors of student teachers.

Thus, the assumption may be made that the relationship of verbal to nonverbal behavior has not been established quantitatively and reported in the research literature. This
approach to the problem sought to analyze the quality of two kinds of student teacher classroom behavior and to determine the relationships.

Definition of Terms

The following terms were defined for purposes of this study:

Block plan. A program whereby the student teacher is placed in an elementary school for full-time, all day, participation in teaching under the supervision of a certified elementary teacher for nine weeks of the semester.

Classroom climate. Those social-emotional attitudes and feelings communicated by a student teacher in a classroom that affect interpersonal relationships with children, and can be recorded by using a category procedure.

Communication. The transfer of meaning through speech or action from student teacher to pupils. Good defines the term, in part, as being "... the transference of thought or feeling from one person to another through gesture, posture, facial expression, tone and quality of voice as well as by speech" (9, p. 113).

Direct teacher influence. Verbal behaviors of teachers which limit or restrict the actions of pupils and their freedom to participate in class. Categories 6 and 7 in the Flanders system of interaction analysis are classified as direct teacher influence, and include giving directions or
commanding; criticizing pupils; and justifying the authority one has as a teacher.

Encouraging nonverbal communication. Nonverbal behaviors of teachers which are recorded in the Galloway categories I, 2, and 3, namely, enthusiastic support, helping, and receptivity.

Feedback. The individual reports of recorded observations of verbal and nonverbal behaviors furnished those subjects in the experimental group of this study.

Indirect teacher influence. Verbal behaviors of teachers which encourage the actions of pupils and expand their freedom to participate in class. Categories 1, 2, and 3 in the Flanders system of interaction analysis are classified as indirect teacher influence and include accepting and clarifying students' feelings; praising or encouraging students; accepting and clarifying, or using students' ideas.

Inhibiting nonverbal communication. Nonverbal behaviors of teachers which are recorded in the Galloway Categories 5, 6, and 7, namely, inattentive, unresponsive, and disapproval.

Interaction analysis. The system of ten categories developed by Ned A. Flanders for classifying and quantifying the verbal classroom behaviors of teachers and their pupils as they interact with one another. Interaction analysis is also referred to as the Flanders system, and as the Minnesota Categories for Interaction Analysis.
Matrix. A profile and summary of the recorded interaction data yielded by classroom observation using the Flanders system.

MTAI. A term that refers to the Minnesota Teacher Attitude Inventory (3). Scores on pre-test and post-test may increase or decrease. An increase in score is noted as positive direction, while a decrease in score is noted as negative direction.

Observer. A certified and experienced elementary teacher who has been trained to make observations of student teachers and to record verbal and nonverbal data using the Flanders system and the Galloway procedure.

Nonverbal behavior. Actions which transmit a feeling or thought from the student teacher to pupils through posture, facial expression, tone of voice, or physical contact, and which are recorded by using Galloway's procedure.

Verbal behavior. Speech which is used by a student teacher to communicate with a pupil or a group of pupils and is recorded by using the Flanders system.

Limitations of the Study

In considering the results of this study, the following limiting factors should be kept in mind:

1. The amount, quality and kind of observational data collected was only a small sample of each subject's range of nonverbal and verbal behaviors.
2. The data accumulated on each subject’s verbal behaviors were limited to the classes of verbal behaviors identifiable by the Flanders system of interaction analysis. The system has a social-emotional orientation and does not focus on the teacher’s use of cognitive materials.

3. The data accumulated on each subject’s nonverbal behaviors were limited to the Galloway observational procedure for recording and identifying a teacher’s encouraging and inhibiting communication.

4. The influences of public school assignment, school environment, and personality of the cooperating teacher were factors beyond the control of the study.

Procedure for Collecting the Data

Subjects were senior elementary education majors at a southwestern university. All thirty-seven students enrolled in senior elementary student teaching for the spring semester, 1968, volunteered to participate in the study. There were thirty-six women and one man; however, in the interest of conformity the data for the man were excluded from the study.

The explanation of the project to all the students included a statement of purpose for the study and the procedure to be followed by the observers. They were informed that both the public school administrators and the university administrators had approved the study. In addition, the students were assured that neither their procedure in student teaching nor their final grade would be affected by the study.
During orientation, and prior to receiving public school assignments, all subjects were administered the MTAI. This instrument was given as a pre-test during the first week of the semester, and as a post-test during the ninth and sixteenth weeks. Four students were enrolled for the block plan of nine weeks.

Each principal and each cooperating teacher involved with elementary student teachers were informed of the project by a letter from the superintendent of schools. (See Appendix C.) Details of the study were then supplied in personal conferences. Two certified and experienced elementary teachers were trained to be observers, to use the Flanders system of interaction analysis for recording verbal behavior, and to use the Galloway procedure for recording nonverbal behavior. Training included visits in classrooms and the use of six taped student teacher lessons prepared during the preceding semester. Observers worked on alternate days with the project director in making observations. Reliability of observer agreement was established at .81 to .95 for one of the observer teams, and .81 to .92 for the other observer team. A third certified, experienced elementary teacher worked as part-time secretary. She was trained to compile the matrices from the tallies of recorded observations.

Selection of the experimental group was made following the first observation. Selection was based on data obtained from the use of the Flanders system, inasmuch as this system
had received more extensive utilization than the Galloway procedure in reported research. Combined data from the use of the two observational techniques were considered unfeasible for the purpose, since a relationship between the two techniques had not been empirically established. The difference between direct verbal and indirect verbal tallies was computed for each student. The resulting differences in tallies were arranged in descending order, and pairings of tallies were made, i.e., tallies 1 and 2 and tallies 3 and 4. One member of each pair was then selected at random to form the experimental group.

Two plans were available for scheduling the student teaching assignments. One of these provided for one-half day of teaching for the entire semester. The other plan, called the block plan, provided for a full day of teaching for one-half of the semester. Four of the thirty-six student teachers chose the block plan. The remaining thirty-two student teachers chose the eighteen-week plan. For the student teachers assigned for one-half day in the schools, the first observation was made during the third and fourth weeks of the semester. The second observation occurred during the sixth and seventh weeks, and the third and final observation took place during the thirteenth and fourteenth weeks. For three of the block plan student teachers, observations were made during the second, third, and eighth weeks of the semester. One of the block plan student teachers
began at midterm, having chosen the last half of the semester, rather than the first half, to teach all day. Observations of this student teacher were made during the tenth, twelfth, and sixteenth weeks.

Treatment of the Data

The data obtained from the second and third observations of student teachers and the pre- and post-administrations of the MTAI were processed by the data processing center at North Texas State University. The .05 level of significance was designated as the point of rejection of the statistical null hypothesis.

Hypotheses 1, 2, 3, and 4 were tested separately by Fisher's $t$ technique, using the difference of the means between observations 2 and 3 for indirect, direct, encouraging and inhibiting tallies, respectively, for the experimental and control groups. Hypothesis 5 was tested by the Pearson product-moment correlation formula to determine the relationship between direct and inhibiting tallies, and between indirect and encouraging tallies for the experimental and control groups. Hypothesis 6 was tested by Fisher's $t$ technique using comparative mean scores on the MTAI for the experimental and control groups.

Summary

Student teaching is an important phase in the educational preparation of the individual who plans to teach.
Teacher-training institutions are concerned with the quality of this experience, especially as it pertains to the classroom performance of the future teacher. It is recognized that a teacher's classroom behavior is so complex and variable that an accurate description of it is difficult to obtain. Even supervisory observations tend to be biased by preconceived ideas of what a good teaching-learning situation should be. Infrequent contacts between supervisor and student teacher due to limited time, conflicting schedules, and distance from campus to public school all contribute to dissatisfaction with supervisory results.

Generally accepted is the conclusion that professional evaluation of student teacher classroom behavior and effective guidance are difficult to attain. Observational procedures designed to minimize bias, to record observations systematically and objectively, and to identify significant patterns of teacher behavior—both verbal and nonverbal—are worthy of investigation. College supervisors, in their efforts to improve the effectiveness of the student teaching experience, may also improve their own efficiency. Helping a student teacher to become aware of, and to be able to control his verbal and nonverbal behavior are processes over which the college supervisor can exert some control.

The use of Flanders' interaction analysis system for recording verbal behavior and Galloway's procedure for recording nonverbal behavior will present a sample picture of
a teacher's words and actions. Such a picture will indicate the trend of teacher influence with pupils as being direct or indirect and as being encouraging or inhibiting. Based on previous experimental studies, indirect and encouraging teacher influences are conducive to the improvement of learning.


CHAPTER II

REVIEW OF RELATED LITERATURE

A well-known consensus among writers on teacher education is the critical importance of student teaching in the professional program. Many researchers are concerned with making this experience more effective. Perhaps improvement can be made if college supervisors of student teachers develop additional skills. The influence of the college supervisor must also be strengthened and improved. The future teacher must emerge from an education program with many competencies needed to foster the learning process in today's children. Beecher observed, "... the public demand for evidence of improvement in teaching efficiency has increased" (11, p. 2).

The research reviewed was classified under the following headings:

1. Research related to change in student teacher attitude
2. Research which used theMTAI
3. Research which pertained to the development of observational systems
4. Research which used the Flanders system of interaction analysis
5. Research related to the Galloway procedure for categorizing nonverbal behavior

6. Relationship of reported research to this study

**Research Related to Change in Student Teacher Attitudes**

Systematic instruction at the pre-service level of teacher education must provide for orientation to the school, for the development of an individual teaching style, for insight into the professional requirements of the teacher, and for the acquisition of information about the theoretical aspects of teaching (69, p. 21). Hughes insisted that one of the major tasks is that of developing teacher sensitivity that makes possible "responsiveness to children in a discriminating professional manner" (48, p. 303). High quality student teaching experiences must contribute significantly to the attainment of this goal. Practice alone is not enough. Neither is the admonition for the student teacher to analyze and reflect on his own experiences. Corrigan and Griswold insisted that interpretation of classroom interaction and guidance by supervisors is necessary if the student teacher is to have a "quality experience" (26, p. 17).

A standard of excellence for this critical phase of the educational program requires supervision by both college and school staffs. "We need sensitive and knowledgeable supervisors who are experts in the teaching process and who have at their disposal the enormous amount of time required to
help a student learn about teaching" (69, p. 22). Recent studies, including Amidon's Project on Student Teaching, had as their primary focus "... improving the effectiveness of the cooperating teacher's supervision of the student teacher" (6, p. 2). This was done by testing the effect on student teacher behavior of systematic training in interaction analysis provided for a group of cooperating teachers. A suggestion growing out of a study by Young proposed that "cooperating teachers should receive special training for their role as cooperating teachers" (90, p. 176).

Unfortunately, the literature does not reveal comparable effort toward improving the college supervisor's efforts to become more effective. Dunham (1958) found that student teachers tend to approximate the attitudes held by their supervising teachers rather than those held by their college supervisors (28). Medley and Mitzel, quoted by Amidon, found that the college supervisor had less influence than any other variable which might be related to change in student teacher behavior (6, p. 2). The responsibility of the college supervisor for the student teacher cannot be properly discharged unless his influence is strengthened.

The complexity of the student teaching situation increases the difficulty of providing frequent and accurate assessment by college supervisors. Ideally, alert self-evaluation by the student teacher should be supplemented by accurate and continuous feedback from the supervisor, thus
forming an appropriate focus for the supervisor-student
teacher conference. Commitment to change by the student
teacher during the conference is desirable. If the situ-
tion is thoroughly understood it is likely that improved
procedures may be suggested by the student himself. Lack of
change in teaching activity often results when only verbal
agreement is given to suggestions made by the supervisor.
The problem of encouraging initiative in student teachers
seems to be that of furnishing sufficient objective data
about the teaching procedure. The classification or categor-
izing of observational information is one means of furnishing
such data. Tape recordings and videotapes are other promising
sources (7, pp. 151-152).

The increased freedom of the student teacher for self-
analysis and consequent self-improvement must be accompanied
by a corresponding willingness and ability to accept and
perform that difficult task. Bowers and Soar, in reporting
their study of the influence of teacher personality on class-
room interaction, stated that the teacher "... must care;
must not have this concern blocked by her own intrapersonal
tensions; and she must be able to perceive herself and others
clearly and represent herself honestly in communication with
others" (13, p. 311). The acceptance of responsibility by
the student teacher for herself as a professional person is
based upon the vitally important consideration of attitudes
and the factors which affect their development and their
change.
The effects of the student teaching situation upon attitudes of student teachers has attracted wide interest on the part of researchers. Corrigan and Griswold (1963) designed a study to determine the expressed attitude change of elementary student teachers, during their student teaching experience, toward certain principles of education held to be important in guiding learning opportunities (26). These included 1) the learner's purposes are recognized and utilized, 2) the learner engages in problem solving, and 3) the learner is helped to develop generalizations which he can apply in a variety of life situations. An attitude inventory was developed to measure verbalized attitude changes toward these principles. The inventory consisted of eighty statements and was rated on a scale from "strongly agree" to "strongly disagree." It was given before and after student teaching to forty-one subjects at Teachers College, Columbia University, and to twenty-two subjects at New York University, both groups being in their fifth year pre-service student teaching. Twenty-five subjects were then selected for open-ended follow-up interviews. Findings showed a mean change on a five point scale of 49.8, considered statistically significant. It was concluded that student teaching did contribute to change in attitudes toward the selected principles, and that direction and amount of change were dependent upon perception of the student teaching experience. Further findings were 1) high positive change with certain college
supervisors, 2) high positive change for those teaching in lower grades and less positive to negative change for those working with upper grades, 3) high positive change with one placement during the semester, lower positive to negative if this varied in any way, 4) slightly higher positive change for younger than for older students, and 5) no significant correlation between attitude change and high or low initial scores.

The presence or absence of a shift in attitude can sometimes become a function of the measuring instrument. In 1967 Donald E. Campbell used the MTAI in a study of nine physical education majors at the beginning and conclusion of a semester of student teaching. No significant difference was found when the total attitude score of the pre-student teaching was compared with the post-student teaching attitude score. When Campbell applied analysis of variance to the five dimensional MTAI responses, however, he found a significant difference for the dimension, Principles of Child Development and Behavior. A significant shift from agreement to disagreement became apparent, leading Campbell to conclude that a focus of experimental effort on the dimensions of attitude change may hold promise for further study. "Perhaps a better understanding of attitude changes resulting from experimental conditions may be more appropriately evaluated by inspecting the dimensions of the attitude change" (24, p. 162). The negative direction of attitude change prompted Campbell to
observe: "Perhaps the change in attitude reflects the need of an alignment of the theory presented in the professional education curriculum with the reality of the teaching experience" (24, p. 162). It is relatively easy for the teacher to be permissive in thinking about children and in working with one or two, but it is more difficult to be permissive with a class of thirty to thirty-five and with the "pressure to instruct" ever present.

Kropp and Anderson studied the feasibility of shaping attitudes about teaching during the period of internship. The subjects of their study were secondary majors who were in their senior year. A tentative conclusion was that "... the internship semester does not seem to be an especially fruitful time during which to develop attitudes about the role of the teacher" (55, p. 369).

Three studies were conducted at Columbia University to explore the possibilities for improvement of student teacher-supervisor conferences. The first one was completed by Rockhill (1965) as a pilot study to investigate the feasibility of procedures and the elements of design then under consideration for a larger study of student teacher-supervisor conferences (71). Mechanical details, instrumentation and methods of data analysis were explored and refined. Two types of supervisory conferences were investigated. The Behavior Analysis Approach was based upon the analysis of the typescript of the student teacher's verbal teaching behavior
as tape recorded while teaching. Discussion at the student teacher-supervisor conference focused upon such matters as patterns of interaction, cycles of moves, and types of verbal responses. The Selected Events Approach was centered upon the hand-written notes of events the researcher noted as she observed the student teaching and the expressed needs of the student. Both conferences concluded with cooperatively developed commitments to changes in student teacher behavior in the teaching sessions to follow. Findings indicated that the category system of analysis appeared to have potential as a tool in facilitating the student teacher's perception of the influence on pupil learning.

The parallel exploratory studies that followed Rockhill were conducted by Brown, Cobban, and Waterman (18) and by Canfield, Low, and Mullin (25). The former group of researchers explored the effects of a system of analysis called the Behavior Analysis Approach. This system was an adaptation of an established one using pedagogical moves to which was added cognitive categories. Nine elementary student teachers served as subjects and were trained in the use of the system for analyzing their own verbal teaching behavior. Design of the study included recording five teaching sessions for each of the nine student teachers, analyzing the typescripts made from the recordings, developing commitments in supervisory conferences for changed teaching behavior, and inspecting subsequent teaching sessions to identify evidences of
implementation of commitments. Findings indicated that student teachers were able to use the category system to analyze their own teaching and to initiate commitments for changed behavior (10, p. 182). A conclusion reached was that the planned conference, using a particular approach, can be made to influence a student's subsequent teaching behavior. The study points, however, to the need to explore further other techniques useful to college supervisors.

The companion study to Brown, Cobban, and Waterman was completed by Canfield, Low, and Mullin (1965) and focused on the analysis of verbal teaching behavior by means of a list of selected learning principles (25). The student teacher was expected to make commitments to implement these principles of learning. The subsequent verbal teaching behavior would, in turn, reflect the commitments for changed behavior made in supervisory conferences. Results indicated that objective records of teaching behavior provide a basis for productive discussion in supervisory conferences. The findings also suggested that definite plans for action during supervisory conferences appeared to affect positively the future teaching behavior of student teachers.

A study was carried out by Romoser (1964) to determine if three class periods of instruction in Flanders' system of interaction analysis would lead to changes in attitude and in descriptions of a model teacher by elementary and secondary students enrolled in professional education courses.
The study demonstrated that three days of instruction in the Flanders system could change the attitudes of teacher-education students toward lenient tolerance. However, the perception of a model teacher did not change (72). It should be noted that while these subjects were students attending campus classes three days each week, they spent four hours weekly in public school classrooms.

Other researchers have found attitude change during periods of professional training. Dunham (1958) reported positive attitude change among secondary student teachers enrolled in professional education courses prior to the laboratory experience, but negative change for those participating in student teaching (26). A study by McCullough confirmed Dunham's findings (60).

Research which Used the MTAI

The present study has utilized the MTAI as an instrument for measuring attitude change among student teachers. Many examples of related research involving the use of the instrument are available. Those most pertinent to the study are reviewed.

Callis (1953) suggested that the MTAI can predict the kind of interpersonal relations which exist between teacher and pupils about as well as I. Q. tests can predict academic performance (22). This conclusion was reached after analysis of the results from a study in which the instrument was used to predict the ability of teachers to effect harmonious
interpersonal relations in classrooms. The criterion was three estimates of this relationship from different sources: students in each classroom, principal of the school, and two observers from the research team. The combined ratings correlated .46 with results.

The basic question of fakability of the instrument was centered around the assertions of Callis on the one hand and Rabinowitz on the other. The former said that "the MTAI is only slightly susceptible to attempts to fake 'good,'" and the latter stated that it is highly susceptible to faking if the subject has some knowledge of the viewpoint endorsed by the selection agency. Both Callis and Rabinowitz had conducted experimental studies of faking on the MTAI in which each one issued faking instructions. Callis instructed his subjects to attempt to make as high a score as they could. Rabinowitz provided instructions which defined the qualities of a permissive and of an authoritarian teacher. A later study by Rossi and others replicated the Rabinowitz faking instructions, but only altered the Callis instructions by providing individual previous scores and a score to "shoot for." The subjects were able to fake the test "bad" significantly without an explicit set. However, they were not able to fake the test "good" without an explicit set. Rossi and his associates concluded that the MTAI is not as susceptible to faking as assumed by Rabinowitz, but can be more susceptible to faking than was implied by Callis (73).
Brim (1962) investigated the effect of the undergraduate teacher education program at the University of Denver upon student attitudes toward children and upon student concepts of growth and developmental characteristics of children (16). The procedure involved three basic steps. First, two instruments, one to measure attitudes toward children (MTAI) and one to measure concepts of growth and developmental characteristics of children (Nohmey Child Development Expectancy Index) were administered to a population of 250 undergraduate teacher education students at the University of Denver during the initial days of the fall quarter, 1962. Approximately ten weeks later the same forms of these instruments were administered during the closing days of the same quarter, and comparisons were made between means and variances. This step was followed by interviews with thirty-two subjects who exhibited the greatest difference between pre-test and post-test scores. These interviews were tape recorded and explored for sources of change in attitude.

Findings are summarized below:

1. The program had a decided influence on students, resulting in changed attitudes toward children and understandings of growth and development.

2. Attitude change was toward a more liberal position regarding children and a greater expectancy of children.

3. Attitudes moved significantly toward the faculty mean, suggesting faculty influence.
4. Students made the most significant changes in attitudes during the early phases of the program.

5. Interviewees considered laboratory experiences to be the most effective cause of change in attitude toward children. Class instruction was also reported to be quite effective in producing change.

Comparison of the change in student teacher attitudes toward youth was reported by McCullough (60). Two groups of secondary students alternated the order of full-time participation in student teaching with professional education courses. The mean MTAI score of both groups of prospective teachers changed in a positive direction during the period of accelerated professional education courses, and in a negative direction during the period of student teaching.

Gana (1965) found the first administration of the MTAI to be useful as a predictor of success in the Preservice Program at Teachers College and as background for guidance of the student during the program (67). The study included teachers who had taken the test three times as students and once as teachers: first time upon entrance to the program; second time after observation-participation experience in selected schools; third time after completing student teaching; and fourth time after teaching in an elementary school for one-half year or more.

The mean of the scores on MTAI increased at the end of the observation-participation experience and were highest
A definite drop in scores after one or two years of teaching experience, according to the investigator, may be the result of attitudes borrowed from professors and cooperating teachers instead of an ego-involved change in attitude (67).

Research literature contained comparatively few longitudinal studies of teacher attitudes. One such study was done by Wolaver at Purdue University in 1964 (69). The purposes of the investigation were to study the nature and types of changes in the relationships between teachers' attitudes and personality and to compare longitudinal with cross-sectional evidence concerning these relationships. Another purpose was to determine the extent to which measured attitudes and personality characteristics remained stable over time as the same group of teacher education students received increased preparation for teaching.

Data were obtained from three successive administrations of the MTAI and Guilford-Zimmerman Temperament Survey. These were administered to the same students on entrance into teacher education, during student teaching, and one year after graduation. Three conclusions were derived. A teacher's attitude and personality, as measured by the MTAI and the Guilford-Zimmerman Temperament Survey, remain relatively stable throughout preparation for, and following one year's teaching experience. Attitude and personality relationships need to be interpreted in terms of the phase of teacher
preparation when the relationships were obtained. Wolaver also concluded that future research should consider sex, major teaching area, and level because of significant differences in certain attitude-personality relationships.

Reported research on the use of the MTAI as a measure of teacher attitudes indicated that the scores were affected by a number of systematic variables. One of these was the level for which the student teacher is majoring. Levin, Hilton, and Leiderman found in using the MTAI that the mean of the elementary student teacher scores was higher than the mean of the secondary student teachers. The study indicated that "... elementary student teachers are substantially more interested in children, whereas the secondary school student teachers have much higher subject-matter interests" (59, p. 89).

Research literature included a number of studies which indicated that the MTAI was of doubtful value in predicting success in student teaching (17, 54, 75, 78). This is not particularly surprising in view of the complexity of the student teaching situation and of the uncertainty as to what factors make for "successful" teaching.

Research which Pertained to the Development of Observational Systems

For many years there have been attempts to measure classroom behavior by different methods with the goal being to gain greater insight into better teaching procedures. Horn
had observers to put symbols in appropriate places on a seating chart to indicate kinds of pupil responses. Thomas (1929) observed and noted the number of contacts between teacher and pupils. Wrightstone (1934) devised a code to be used with a seating chart in recording teacher-pupil responses.

H. E. Anderson (1939) conducted a series of studies of the interaction between teachers and children in the classroom. Carefully trained observers noted and evaluated on a time-sample basis every interaction of teachers and pupils to determine if it were "dominative" or "socially integrative." Findings indicated that most teacher contacts were dominative rather than facilitative. One of the findings of these observations in grades one through six revealed a tremendous number of individual interactions per hour between teacher and pupils.

Jayne (1945) reported the use and analysis of tape recordings of classroom behavior. Withall (1951), in following seventh grade pupils in the change of one classroom to another, discovered that different teachers produced a different climate with the same group of pupils. This procedure classified the teacher's verbal statements into seven categories which served as an index of teacher behavior. Withall's plan included the coding of typewritten transcripts and sound recordings of classroom behaviors. Mitzel and Habigewitz (1953) departed from the stenographic
reports and records and, instead, made classroom visits. Two observers working independently observed and classified behavior of four teachers in fourth and fifth grades (37). Hughes (1959) reported a narrative record of forty-one elementary teachers recorded in shorthand by two trained observers (40).

Varied approaches have been used to implement supervisory evaluation. One of the most extensive among these approaches was Ryan's teacher characteristic study (1959). It consisted of over 100 separate but integrated research efforts. It was directed at the determination of teacher behavior patterns observable in the classroom, and analysis of relationships between teacher characteristics and observed pupil behaviors. High and low groups of teachers, who had been designated from observer assessments, were compared on the differences in their personal characteristics. The following personal characteristics were prevalent for elementary and secondary teachers considered to be the most capable: generous appraisal of others, great interest in literary affairs, high interest in music, painting, and the arts, participation in social activities, enjoyment of teacher-pupil interaction, preference for non-directive classroom procedures, superior verbal ability, and above-average emotional maturity (74).

George Brown (1961) used the technique developed by Withall to measure classroom climate, categorizing the verbal behavior of third grade teachers (19). A conclusion reached...
was that teachers who were inclined to use praise were likely to be less directive and to use less reproof in their teaching. These same teachers were inclined to be problem-structuring in their behavior with children. Brown stated:

There seems to be a high negative relationship between problem-structuring and directive teacher behavior. It would seem that when a teacher made much use of one approach, she made comparatively little use of the other (19, p. 344).

Waimon (1962) developed a method for recording the teaching-learning process in classrooms by utilizing a team of four members (84). One member concentrated on recording data about the teacher; two members concentrated on the learners; and the fourth member, on the behavior setting. An observation period lasted thirty minutes and was recorded on time sheets blocked off in five-minute intervals. Immediately following the observation period, the team members combined their records into a running account of everything that happened during the observation period. The descriptive records were divided into smaller units called episodes. These episodes were then classified into Type A, B, or C, depending on the verbal and nonverbal behavior indicating pupil readiness or lack of readiness for the learning task, and on teacher response to the pupil. The study demonstrated that three elements—teacher, learners, and setting—are mutually dependent each upon the others. This was a more comprehensive approach to the study of classroom action than that of studies which analyzed only teacher behavior (84).
Gallagher and Aschner (1962) were interested in investigating productive thought processes in gifted children as these are evidenced within the context of classroom verbal interaction (36). Productive thinking includes both the creative and critical analytic dimensions of reasoning. It consists of divergent, convergent, and evaluative operations whereby the individual draws upon available past and present facts, ideas, associations, and observations in order to bring forth new facts, ideas, and conclusions (36, p. 183).

The basic data for this study of verbal interaction were obtained by tape recording five consecutive classroom sessions in twelve classes of intellectually superior children of junior high school age in social studies, mathematics, science, and English. Two observers were present in the classroom during each recording session, and took extensive notes on classroom activities. Each transcribed classroom observation was classified, unit by unit, by trained judges working with a scoring manual. The research data captured much of the general flavor of the varieties of intellectual operations that occurred in the classroom context, making it possible to trace profiles of individual children. The research promised to provide insight into effective methods of teaching for higher conceptual performance, especially, to raise the level of intellectual productivity of gifted children. The eventual goal of the project was to provide more effective ways of training teachers for the stimulation of productive thought processes (36, p. 193).
The Minnesota Studies of Student Personnel Work in Teacher Education, as reported by Wilk and Edson (1963), utilized the verbal behavior of student teachers as the criterion for testing the validity of counselor judgments and other admission data (86, p. 311). Two observational methods were used: OSCAR III—an adaptation of Medley and Mitzel's OSCAR and the Flanders system of interaction analysis. In making observations of student teachers these two methods were used in alternate five-minute time samples for a period of thirty minutes. Five observers, one of whom was a supervisor, visited each subject one time. Discrepancies between supervisor and combined observer ratings of teaching behaviors occurred seven times out of thirty-six. Thus, supervisor bias was not excluded as a cause of these discrepancies. The implication of this report was "... that colleges should assign supervision tasks to persons with special training or provide the training required to make them reliable observers" (86, p. 316).

Flanders' research in the development of interaction analysis actually was a continuation of the work of Anderson and his associates, Lippitt and White, Withall, and Medley and Mitzel (37). As a category system it is a refinement of previous attempts to record raw data. However, the technique of analyzing raw data within a matrix is what makes the Flanders system unique. The addition of the matrix made possible the presentation of a profile of teacher-pupil
interaction immediately following an observation. This objective technique for recording observations is being used in research today.

The Galloway study in categorizing nonverbal communication within the classroom was likewise an outgrowth of previous research (38). Especially influential were the Social-Emotional Climate Index, developed by John Withall, the Observation Schedule and Activity Record (OSeAR), developed by Medley and Mitze1, and the seven categories employed by Hughes. Galloway’s procedure is still in process of validation through research.

Research which Used the Flanders System of Interaction Analysis

This section presents a body of selected research pertaining to the use of the Flanders system of interaction analysis. The material was divided into three parts: first, those studies which were conducted at the secondary level; second, those studies which used the system as a tool for in-service education; and third, those studies which were conducted at the elementary level.

Studies which used the Flanders system with secondary student teachers and reported here included Flanders (1960-1963), Allred (1966), McLeod (1966), Moskowitz (1966), Simon (1966), Burke (1967), Frank (1967), La Shier (1967), and Ledbetter (1967). These are discussed in order as listed.
Interaction analysis was developed by Flanders in the early 1950's. In 1960 he discovered that pupils of indirect teachers had more positive attitudes than did pupils of direct teachers. In 1962 in both New Zealand and at the University of Minnesota Flanders and his associates further tested interaction analysis as an observational tool. It was found that an indirect teaching style was related to improved content learning in mathematics and social studies at the junior high school level. In 1962 and 1963 Flanders conducted in-service training for teachers using interaction analysis (32). The participating teachers received instruction in interaction analysis, learned to assess their own teaching style, and experimented with different patterns of teacher influence. A schoolwide spirit of inquiry and experimentation was developed, and significant changes in the classroom behavior of the participating teachers were noted.

The purpose of Allred's study (1966) was to determine the significant relationships between certain personality traits and the classroom verbal behavior of high school student teachers (1). Personality traits were measured by administering the California Psychological Inventory. Subjects received three visits of approximately twenty minutes duration each, during which an observer recorded verbal behavior using the Flanders system of interaction analysis. Variables of sex and teaching field were controlled. From findings Allred concluded that male high school student
teachers who scored higher on the scales of Responsibility, Good impression, Achievement, Self-control and Capacity for Status tended to restrict pupil verbal participation more than did male student teachers scoring lower on these scales. Female high school student teachers whose scores rated them higher in being insightful, confident, adventurous, informal, rebellious, idealistic, cynical and highly concerned with personal pleasure tended to allow pupils more freedom to participate verbally in general discussions than was true of those who scored lower on the above descriptors.

McLeod (1966) conducted a study to identify changes in verbal patterns of secondary student teachers of science who were trained in the Flanders system of interaction analysis (61). These findings were then compared with those of a different study in which a control group was not trained in the Flanders system. McLeod's subjects were observed for a total of six class hours and behavior was recorded. Then the subjects were given ten hours of instruction in the Flanders system. McLeod found that the most rapid period of change in verbal behavior occurred during the first half of the period of student teaching for those student teachers trained in interaction analysis, and during the second half for those student teachers not so trained. He also concluded that the experimental group experienced more non-random changes toward indirect teacher influence, and fewer changes toward direct teacher influence. In addition, the experimental group used
more indirect influence and less direct influence in the classroom.

A study by Moskowitz (1966) focused on the effects of training in the Flanders system of interaction analysis upon student teachers and the cooperating teachers who supervised them (64). One-half of the high school cooperating teachers received twenty-five hours of instruction in the use of interaction analysis as a supervisory tool. One-half of the student teachers received sixty hours of instruction in interaction analysis, with emphasis on its application to their own teaching. At the end of the semester two attitude questionnaires were administered to the cooperating teachers: Teaching Situation Reaction Test and Cooperating Teacher Attitude Questionnaire. The Student Teachers' Attitude Questionnaire was administered to each student teacher. Two observations were made of each cooperating teacher and each student teacher using the Flanders system. Findings showed that cooperating teachers were more indirect in teaching patterns and showed greater individuality in teaching procedures. Student teachers with interaction analysis training also showed more indirect teaching patterns and more positive attitudes toward trained cooperating teachers.

Simon (1966) was concerned with the effects of training in the Flanders system of interaction analysis on the teaching behaviors of twenty-eight secondary student teachers as they taught their favored and non-favored classes (80). The
subjects were divided into two groups of fourteen each. One group (experimental) received sixty hours of training in interaction analysis during the period of one semester. The other group (control) received no training in interaction analysis. The findings of the study indicated that the training in interaction analysis exerted significant influence on the classroom verbal behaviors of the student teachers studied. Those subjects who did not receive the training reacted to their favored and non-favored classes interchangeably. The trained student teachers were more flexible in their verbal responses, used less critical and controlling behaviors, used more indirect behaviors, and used more facilitating behaviors in all classes.

Burge (1967) used secondary student teachers during a period of nine weeks for the purpose of determining whether a personality instrument, such as the Edwards Personal Preference Schedule would be helpful in predicting verbal behavior in the classroom (21). The instrument was administered to the subjects prior to the student teaching experience. Four fifty-minute class periods taught by each student teacher were recorded on audio tapes and subjected to the Flanders system of interaction analysis. A post-test was administered at the close of the student teaching situation. Burge found that the personality instrument did not predict classroom verbal behavior of the subjects as measured by the Flanders system, and that personality characteristics of
Hough and Amidon (1964) described a study which involved an experimental course using Flanders' system and a regular lecture and laboratory course in The Teaching-Learning Process (6). The members of the experimental group had more positive attitudes toward teaching, and were rated by their supervisors as being more successful in student teaching than were members of the control group. Elements of this study were explored further in a project sponsored by the United States Department of Health, Education, and Welfare. In this project cooperating teachers were also trained.

A study reported by La Shier and Westmeyer (1967) focused attention on the teaching of a unit in eighth grade biology by a group of student teachers (57). The teachers attended a thirty-hour workshop to receive instruction in the content to be covered. They then taught the unit to a group of eighth grade students for a period of six weeks. Each student teacher was observed once a week by one of three observers, with the principal investigator making 85 percent of the observations and using the Flanders system of interaction analysis. Findings showed that the indirect group of student teachers were more accepting of student-initiated ideas, and tended to encourage these ideas, than did the direct group of student teachers.
Ledbetter's study (1961) attempted to determine the feasibility of using student teacher observer teams trained in interaction analysis to develop the capacity of student teachers to change their classroom verbal behavior (58). Feedback from interaction analysis observations was given to the experimental group of subjects and was withheld from the control group. Ledbetter hypothesized that the classroom verbal behavior patterns of the experimental group would be significantly less direct than those patterns of student teachers in the control group. The results of the study did not affirm the development of less direct verbal behavior on the part of student teachers who received feedback. The researcher recommended that more effective observer training techniques be developed.

Since 1960 there have been numbers of studies using the Flanders system of interaction analysis for in-service education. The system seems to hold promise of usefulness in this regard. Studies using the Flanders system as a tool for in-service education included the following: Storlie (1961), Giannatetta (1963), Schantz (1963), Nelson (1964), Furst and Amidon (1965), and Hill (1966).

Storlie (1961) investigated the relationship between selected characteristics of secondary teachers and change in verbal behavior (62). Volunteer teachers participated in a ten-week in-service education program. Half of them were taught in a direct manner, and the other half were taught in
an indirect manner. Subjects were observed before and after the training program. Findings indicated that it was possible to produce changes in the verbal behavior of teachers by means of an in-service program based on interaction analysis.

The purpose of a study by Giannatasso (1963) was to determine if there were identifiable interaction patterns among teachers and students at the various grade levels, and to establish a norm for pupil-teacher interaction in elementary language arts classes (42). Three sub-groups representing grades 1-2, 3-4, and 5-6 were analyzed to determine differences in interaction. Findings showed a significant difference in the direct and indirect verbal patterns between the primary and upper grade groups, and between the primary and middle grade groups. The upper and middle grade groups were similar, in that no significant difference was found in the patterns of verbal behavior. Primary teachers used praise twice as often and criticism one and one-half times as much as that recorded for the upper grades. In summary, primary teachers used more praise, more criticism, and were more direct.

Schandra (1963) compared the effects of verbal recall by children in direct and indirect teaching methods (76). She investigated the comparative immediate and delayed recall learnings of high and low ability groups of children in terms of the method of presentation of new material to be
learned. The findings revealed that high ability pupils were more likely to benefit from an indirect teaching method, and that the low ability pupils were less likely to benefit from the indirect teaching method. These findings represented a trend only, and were not statistically significant.

Nelson (1964) studied the effects of interaction on the linguistic performance of children (66). The findings suggested that teacher behaviors varied along a continuum from indirect to direct, depending on the immediate teacher-pupil interaction and the specific objectives for a single lesson. In other words, the teacher used a wide repertoire of behaviors. The findings further confirm the effects of an indirect leadership style, indicating that an indirect teaching style generally produced superior written expression on both qualitative and quantitative measures. The language products improved because of pupil maturation in language growth as well as because of indirect teaching style.

The purposes of a study by Furst and Amidon (1965) were to determine the difference in interaction patterns among six grade levels in the teaching of reading and to determine what differences in interaction patterns, if any, existed between reading and other subject areas (35). Schools were selected from three socio-economic areas: low, middle, and suburban. Results indicated that none of the grades showed a high indirect pattern of teaching reading. The reading teacher talked between 44 percent and 47 percent of the total class
time. First grade reading teachers gave more directions than any other grade, with the fewest directions being given in the sixth grade. First grade teachers did the most criticizing, with the least amount of criticism in the sixth grade. The reading teacher seemed to do less talking than did the teacher in either arithmetic or social studies.

Hill's in-service education program of instruction in interaction analysis (1966) was conducted for three elementary and two secondary schools (45). Each teacher was assigned to one of three training periods (six, eight, or ten hours), and was assigned within the building group to one of two modes of receiving feedback from his own teaching: tabulating tape recordings of his own teaching, or conferring with the principal who had observed his teaching. All groups received instruction in the use of the Flanders system of interaction analysis. The investigator made pre- and post-observations using Flanders interaction analysis as the observational instrument. The data showed no direct relationship between change in verbal teaching behavior and training time or mode of feedback from teaching.

Studies using the Flanders system with elementary student teachers included Lantz (1961), Kirk (1964), Zahn (1965), Ragsdale (1967), and Hart (1967). The chronological order of these studies is followed in the discussion.

Lantz (1961) examined the relationships between self concepts and teaching behavior among elementary student
Icathers (56). The two instruments used to record ten ob-
servations of classroom behavior were the Flanders categories
and a modified OSCAR. The "Integrative Verbal Behavior"
scorer derived from Flanders' Categories for Indirect Teacher
Control were found unrelated to the eight dimensions of self
concept.

Kirk (1964) investigated the use of interaction analysis
to collect data on intermediate social studies teachers (53).
There were three stated purposes. The first purpose was to
determine whether in classes conducted by student teachers
at the intermediate level, patterns of verbal behavior could
be identified, and if so, what these patterns might be.
Second, the investigator wanted to determine whether teaching
the Flanders system of interaction analysis would have any
effect on a teacher's verbal patterns. The third purpose
attempted to determine whether the pupils of student teachers
could detect any change in the teaching patterns used by stu-
dent teachers. Instruments used included one personality
inventory—the Runner Studies of Attitude Patterns, Interview
Form II—and two teacher attitude inventories—MTAI and the
Teaching Situation Reaction Test. In addition, the Student
Perception of Teacher Influence test was selected for use
with the pupils involved.

The experimental group was taught to note, construct,
and interpret the records presented by interaction analysis,
including records of their own teaching efforts. This group
was taught in weekly seminars and private conferences following classroom observation by the college supervisor. No mention was made of interaction analysis to the control group. The study purported to show the effects of objective feedback on the teaching behavior of student teachers.

Results of the study indicated certain differences between the experimental and control groups. Of these differences, two were pertinent to the present study. The tendency to increase direct influence was not as pronounced in the experimental group as it was in the control group. The feedback of the Flanders system of interaction analysis had no effect on MTAL scores.

Zahn (1965) compared the use of conventional supervisory techniques upon student teachers with the use of interaction analysis as a supervisory technique. The primary purpose was to determine the effect on attitudes and performance of student teachers when categorization of behavior was applied by the supervisor (91). The experimental group received fifteen hours of instruction in interaction analysis prior to the student teaching experience, while the control group received conventional instruction which did not include interaction analysis. The conclusions reached were pertinent to this study. Instruction and supervision of student teachers using interaction analysis appeared to be related to a positive change in the teaching attitude of the student; and the effect of the cooperating teacher’s attitude on the student teacher...
seemed to be greater than conventional supervisory techniques when students experienced supervision by college supervisors using interaction analysis (91, p. 64).

Two observation systems were used by Ragsdale (1967) to measure elementary student teacher classroom behavior: Flanders system of interaction analysis and Ryan's Teacher Characteristics Classroom Record (70). The purpose was to explore the relationship of the change in student teacher attitudes toward children's behavior and teacher-pupil relations with the student teacher's classroom behavior during a ten-week period of student teaching. The test-retest method using the MTAI indicated no significant change in student teacher attitudes toward children. The data obtained by use of interaction analysis also indicated no significant change in student teacher classroom behavior.

Hart (1967) explored the degree of change in openness of student teachers who studied interaction analysis and those who did not (44). During the period of student teaching the experimental group, in a series of eight sessions, received training in the Flanders system of interaction analysis, while the control group met to discuss important teaching behaviors and the disadvantaged child. The experimental group made changes toward openness, but not sufficiently large to be statistically significant.
Research Related to the Galloway Procedure for
Categorizing Nonverbal Behavior

A statement of introduction to the area of nonverbal
classroom behavior may best be made by one of its foremost
advocates, Charles Galloway:

The significance of nonverbal behavior in the
classroom is an idea about teaching that is
growing in importance. Until now, it has seldom
been recognized or understood, at least in a
formal, specific way (39, p. 38).

There is great need to help teachers become more sensitive to
the wide range of messages which they are continuously giving
and receiving in the classroom. A failure to be aware of the
many implications of nonverbal language and to interpret those
implications is a grave handicap for understanding the impact
of one's communication with pupils (41, p. 63). Yet Halpin
pointed out that there have been no programs of training for
the reading of this type of communication (43, p. 98). The
term 'nonverbal language' is used to refer to nonverbal commu-
ication, and Halpin described it as being "the language of eyes
and hands, of gesture, of time and of status symbols, of un-
conscious slips which betray the very words we use" (43,
p. 85). The nature of nonverbal behavior was also succinctly
described by Galloway as follows:

Nonverbal communication is behavior that conveys
meaning without words. It can be symbolic or
non-symbolic, spontaneous or managed. It can be
expressive, transmitting emotion; or it can be
informative, transmitting facts. It can be as
specific as a gesture or as general as the
atmosphere of a room. It can be either dynamic
or static (39, p. 37).
The marked lack of research in the field of nonverbal behavior loudly speaks the need for serious consideration on the part of able and dedicated researchers. Although verbal interaction analysis has begun to catch the imagination of the social scientist, the realm of nonverbal communication has received only a curious occasional glance.

Galloway (1962) completed an exploratory study of observational procedures for determining teacher nonverbal communication (30). The procedure of this study centered on the applicability and utility of three independent observational procedures which were employed for gathering data. Three different groups of observers were involved. First, observers trained by the investigator used an observational schedule for tallying the nonverbal behaviors of the teacher in terms of specified categories. These categories were scaled on a continuum designated as encouraging-inhibiting communication. Second, a separate team of observers narratively recorded the nonverbal behavior of the teachers in the form of observation records. They recorded nonverbal behaviors of teachers and pupils when interaction was noted. Three judges then read the observational records for each teacher and made judgments about the influence of each teacher's communicative behavior. Third, selected experts in the areas of leadership, curriculum, and communication also observed and assessed each teacher's nonverbal behavior. Each of the experts independently determined the subject's type of communication in terms of the continuum, encouraging-inhibiting.
The subjects included six teachers and the pupils in grades 4, 5, and 6 enrolled in the self-contained classrooms selected for the study. In order to get the pupils’ perceptions of teacher attitudes, the Davidson-Lang Adjectival Checklist was employed.

Findings of the Gateway study were especially important to this study. Each of the three observational procedures was recognized as having distinct possibilities of usefulness. There was a significant relationship between the rankings of the teachers from the recorded categories and from the judges evaluation of observation records. The ranking of the teachers from results of the recorded categories did not agree with any of the three experts’ rankings, however. The experts did not agree among themselves in ranking the teachers. Thus, the observational categories and narrative records appeared to hold more promise of furnishing reliable data and fruitful information about a teacher’s encouraging and inhibiting communication. The narrative record procedure, however, proved to be somewhat more cumbersome to use than the category procedure. The study found that teachers differed in their ability and inclination to be encouraging or inhibiting in their communicative contacts with pupils. Evidence suggested that the teachers who were most encouraging tended to reveal it through their listening behavior, the appropriateness of their responses, and the emotional support which they gave. Teachers who displayed inhibiting communicative behavior
showed disinterest in pupil talk, were inconsistent in their responses to pupils, and were likely to express disapproval in their nonverbal contacts with pupils (38, 41).

Mehrabian (1967) studied the possible differential effect of head and body cues in communicating (62, p. 324). The frequency of head, hand, and leg movements provided information about communicator and anxiety level, as well as communicator mood. In cases in which the verbal and nonverbal messages were inconsistent, the latter took precedence over the former.

Shapiro (1968) investigated the responses of judges to incongruent cues of communication (79). Emotional variables are communicated through facial cues, vocal cues, linguistic cues, body position, and body movement cues. Many individuals from time to time present contradictory messages. In this study judges were presented a forty-six item test in which they were to rate the affect communicated through an individual's concurrent facial expression and linguistic message (79, p. 11). Shapiro reported that when a group of judges were presented with a complex of discrepant facial and linguistic cues, wide variability in judgments could be expected. Thus, facial cues were found to be used as frequently as linguistic cues in the interpretation of messages received. The conclusion reached was that some individuals were reliably more sensitive to nonlinguistic information, while others were more sensitive to linguistic messages (79, p. 13).
Thoresen (1967) used videotapes to change the verbal and nonverbal behavior of seven college history instructors (63). In the playback of the video recordings verbal and nonverbal behaviors were discussed. Even though definitive conclusions were premature, it did seem that the treatment procedures—providing counselor reinforcement and modeling, coupled with video playback—might be a means of promoting significant behavior changes in instructors. A content analysis of the video recording was under way to determine if the verbal and nonverbal behavior of the instructor changed significantly (63).

Observational procedures that provide data for verbal interaction are not perfect, although there have been greater advances in recording the verbal classroom behavior than in recording the nonverbal. If an accurate analysis of all teacher-pupil interaction is to be made, however, observational techniques must be found that will accommodate the nonverbal messages (40, p. 9). College supervisors and classroom student teachers should become cognizant of the available techniques.

Relationship of Reported Research to This Study

A scrutiny of the research literature which has been reported in the fields of verbal and nonverbal interaction analysis in the classroom revealed at least three aspects which have direct relationship to the present study. The
first of these was the utilization of the categorical, systematic recording techniques developed by Frieders and by Calloway which have contributed to increased objectivity in recording classroom activity. Facilitation of such recording was necessarily dependent upon a method which readily lent itself to the requirements of serious research.

A second factor which tended to relate the body of previous research to the present study was the concept of applying interaction analysis recording techniques to the classroom activities of student teachers and of furnishing feedback from such observations to the student teacher observed. The possible use of the recording techniques by the college supervisor was found in the research. This aspect of interaction analysis was used with different degrees of success by Kirk, Zahn, Bedbetter, and Ragsdale.

A third emphasis of the reported research literature was related to change in teacher attitude toward children and teaching which could be observed and measured. The possible usefulness of the MTAT as an instrument for this study was established by its use in previous studies.

A fourth aspect of previous research which was related to the present study was the concept of using two methods of observation in a single observation session. The two category plans were alternated according to pre-established time segments which followed the procedure used by Will and Edson.
This study, however, differed from previous research studies in at least one notable respect. Insofar as had been determined, the alternation of the Flanders system and the Galloway procedure for recording within the same observational period had not been previously attempted. In using such a combination this study may be able to contribute additional data to the process of validating the Galloway procedure.


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CHAPTER III

PLAN FOR THE STUDY

The purpose of this chapter is to describe procedures by which the study was conducted. The discussion encompasses the following: selection and description of the subjects, variables of the study, description of the instruments used, procedure for collecting the data, procedure for training observers, and statistical treatment of the data.

Selection and Description of the Subjects

The subjects participating in the study consisted of thirty-six senior elementary education majors enrolled in student teaching during the spring semester, 1968, at a southwestern university. Members of the group ranged in age from twenty-one to forty-six. All subjects were females, inasmuch as the one male enrolled in the course was not included in the data analysis. Fourteen of the thirty-six were unmarried. Among the twenty-two married subjects, eleven had been married less than two years. Ten were parents of at least one child.

All the subjects except one had done their professional preparation at the university at which the study was being conducted. The exception was a transfer from another
teacher-training institution in the state who had received approval to complete student teaching at the university. At the beginning of the semester the number of semester hours that had been completed by the subjects ranged from 96 to 184. The number of semester hours completed in the major field of education ranged from 10 to 24, with twenty of the subjects having completed the latter. Overall grade point average ranged from 1.4 to 2.82 on a 3-point scale. Twelve subjects had a grade point average of 2.04 or better. Sixteen additional subjects had an average of 1.61 or better. At the beginning of the student teaching experience eighteen subjects had a grade point average of 2.0 or better in education courses. Ten others had an average of 1.7 or above.

The subjects were assigned to thirty-six cooperating teachers in fourteen elementary schools in the city where the university was located. All elementary grade levels, one through six, were represented in the assignments, and involved 1,608 children.

Selection of the experimental group was made following the first observation. Selection was based on data obtained from the use of the Flanders system, inasmuch as this system had received more extensive use than the Galloway procedure in reported research. Combined data from the use of the two observational techniques were considered unfeasible for the purpose, since a relationship between the two techniques had not been empirically established. The difference between
direct verbal and indirect verbal tallies was computed for each student. The resulting differences in tallies were arranged in descending order, and pairings of tallies were made, i.e., tallies 1 and 2 and tallies 3 and 4. One member of each pair was then selected at random to form the experimental group.

Members of the experimental group were requested by mail to attend a group meeting on Monday of the fifth week for the purpose of discussing the observations. During the two-hour meeting an explanation of interaction, both verbal and nonverbal, was presented. A brief survey of the historical development of category systems, including the two systems being used in the collection of data for this study, was given. A typical sample record of an observation was projected and discussed. (See Appendix E.) Questions were invited and responses were given. Individual records of the first observation were then distributed to their respective owners. Individual conferences for further interpretation of the records of behavior ensued during the afternoon. Records of the second observation were mailed by the secretary to the members of the experimental group only.

The members of the control group received no instructions in the verbal and nonverbal category techniques and no feedback of observations. They were given, however, an explanation of the study, the purposes for it, and procedures to be followed prior to being invited to participate.
The Variables of the Study

The independent variable in this study was the feedback from observations of the verbal and nonverbal classroom behavior of student teachers. The dependent variable was the verbal and nonverbal behavior of the participating student teachers. The study was designed to test the influence of feedback upon the following:

1. Indirect verbal behavior
2. Direct verbal behavior
3. Encouraging nonverbal behavior
4. Inhibiting nonverbal behavior

A parallel dependent variable was the attitude of student teachers in terms of interpersonal relationships with children. This supportive phase of the study tested the influence of feedback upon that attitude.

Description of the Instruments Used

The Flanders system of interaction analysis was used to record the verbal classroom behavior of the student teachers and pupils in the present study. This system, developed by Ned A. Flanders and refined by Edmund J. Amidon, evolved from earlier attempts of H. H. Anderson, John Withall and others to categorize teacher behavior. It is a process of abstracting the intent of an act from the act itself. The system "... is concerned with verbal behavior only, primarily because it can be observed with higher reliability than can
nonverbal behavior (1, p. 6). The authors of this well-developed system of interaction analysis assumed that verbal statements make up an adequate sample of total teacher behavior. A method of categorization of statements can be done in one of three major sections: teacher talk, pupil talk, and a separate category for silence or confusion. The larger sections of teacher and student verbal behavior are subdivided. Teacher verbal behavior may be further divided into two subdivisions: indirect and direct teacher talk.

Indirect teacher talk or influence includes four categories, as follows: 1) accepting feeling, 2) praising or encouraging, 3) accepting or using ideas of pupils, and 4) asking questions.

Direct influence includes three categories, as follows: 5) lecturing, 6) giving directions, and 7) criticizing or justifying authority. Student talk is divided into only two categories, as follows: 8) responding to the teacher and 9) initiating talk. Category 10, silence or confusion, completes the system. A detailed description of each of these categories is found in Appendix A.

This study was concerned only with Categories 1, 2, 3, 6, and 7, since statements recorded therein are particularly concerned with motivation and control in a particular classroom and are sensitive to the positive and negative aspects of social skill in the teacher-pupil relationship (1, p. 37; 5, p. 27). Categories 4 and 5 were deleted because they are
influenced by subject content and were, therefore, not related to the social-emotional focus of this study.

The trained observer recorded at three-second intervals the category of interaction as it occurred. The numbers were written in chronological sequence and were arranged in a column, thus:

```
10
  4
  3
  4
  8
  3
  5
  5
  5
10
```

(The use of a 10 at the beginning and end of any sequence tabulation is necessary in order to balance the matrix.)

After being recorded the numbers were tabulated in a 10 x 10 matrix, one pair of numbers at a time. The row is indicated by the first number and the column is indicated by the second number:
Figure 1 illustrates where the above tallies are placed on a matrix. The totals for the columns are also indicated.

**COLUMNS**

<table>
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<tr>
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<th>1</th>
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**Fig. 1--Sample Matrix for Recording Interaction Analysis.**
The matrix became an accurate and objective method of communicating or feeding back to the student teacher her own pattern of verbal behavior. Such feedback is essential in guiding a teacher at the pre-service level toward awareness of the need for behavioral change.

Like the Flanders system of verbal interaction analysis, the procedure developed by Galloway represented an extension of work begun by previous researchers in the area of nonverbal interaction in the classroom. Galloway's procedure involved the use of seven observation categories to be used for recording nonverbal communicative acts. The categories represent opposite poles of an encouraging-inhibiting continuum in three instances, with category 4 being pro forma: Categories 1 and 7 exemplify enthusiastic support versus disapproval; categories 2 and 6 exemplify helping versus being unresponsive; and categories 3 and 5 exemplify receptivity versus being inattentive (6, pp. 146-149). The seven categories are explained more fully in Appendix B. The pro forma category, number 4, includes communicative acts which are matters of form, or for the sake of form. This category was used to indicate a routine act.

The Galloway procedure for recording nonverbal classroom behavior included seven categories. The first three categories were considered to be encouraging in nature; the last three were considered as inhibiting; and the middle category was considered to be neutral, since it was neither
The categories furnish a tool by which an observer may record nonverbal behaviors at the time of enactment in the classroom. No specified time interval for recording was observed. Nonverbal manifestations seemed to be of three kinds: facial expressions, gestures and body movements, and vocal intonations and inflections. The observer was required to make interpretations of the intent of the nonverbal behaviors which were observed. Such interpretations involved the mental and emotional states of pupils and teachers, and the relationship of those states to the room setting at a particular time. It may readily be seen that the necessity of such interpretation required considerable observer judgment and skill, and constituted a task that is highly difficult of accomplishment. Such difficulty, perhaps, has discouraged wide research in the area of nonverbal interaction.

Manifestations of interest in the characteristics of the ideal teacher, especially as they relate to the attitudes of teachers and pupils toward each other, have appeared in research literature over a period of years. Wickman (1928), Bryan (1941), Baxter (1942), and Tiedman (1942) concerned themselves with differing aspects of this area of study. In 1951 Cook, Leeds, and Callis published an instrument entitled the Minnesota Teacher Attitude Inventory (MTAI) which, according to its authors, was designed "to measure those attitudes of a teacher which predict how well he will get along with
pupils in interpersonal relationships . . ." (4, p. 3). It was intended that the Inventory be used to predict which teachers or potential teachers were likely to establish satisfactory relations with pupils. There was extensive agreement among authors in the field, however, that the predictive value of the MTAI has not as yet been definitely established. Arnold notes that the data appearing in the Manual of the Inventory does not involve studies of scores made by students prior to or during student teaching as related to later success in teaching (2, p. 797). Arnold, nevertheless, commended the "consistent and thorough work" that went into the preparation and validation of the instrument. Cronbach observed that the Inventory was probably as well designed and executed as any actuarial test can be. The instrument has been widely used (3, p. 160), as indicated by studies cited in Chapter II of this study.

The MTAI consists of 150 attitude statements (Form A) assembled in an eight-page reusable booklet. The statements are related to attitudes of teachers toward pupil-teacher relations, and are not to be considered as either "right" or "wrong" from the standpoint of correctness. For convenience of scoring, however, the commonly-used terms of "right" and "wrong" have been used to differentiate the positive and negative answers. Selection of answers was made from a five-point scale ranging from "strongly agree" to "strongly disagree." The possible range of scores was from plus 150 to
Riinus 150. The IBM answer sheet permits both machine and hand scoring. Data are presented by the authors to indicate that individuals who score high on the test tend to become better teachers than do those persons who score low. These data were considered by one reviewer to justify the publication of the test. Norms were presented for high school seniors, teachers in training, university freshmen and experienced teachers. Separate norms were not provided for successful and unsuccessful teachers.

Validation of the study was done by the use of three criteria: principal's estimate, pupil's rating, and visiting specialist's rating. These criteria were applied to 100 teachers of grades 4-6 inclusive. When the criteria were combined, the validity coefficients in three separate studies were .60, .63, and .46. There seemed to be a definite relationship between inventory scores and teaching behavior at the time the test was given (2, p. 798).

Procedure for Collecting the Data

An invitation to participate in a research study was issued at the first orientation meeting of elementary education majors registered for student teaching at a southwestern university during the spring semester of 1968. The purposes of the study and the nature of student teacher participation were explained to the group of thirty-seven enrollees, including both the experimental and control groups. It was
further explained that administrative officials of both university and public schools had approved the project. All the student teachers agreed to cooperate. Assurances were made that neither the student teaching routine nor the final grade of the participants would be influenced by the study; also, that assigned college supervisors would follow their usual procedures.

The MTAI was administered as a pre-test during the first week of the semester. The usual orientation procedures were later followed in routine manner. No explanations of the Flanders system and the Galloway procedure were given at this time.

Placement of the student teachers in public school classrooms was made cooperatively by public school and university officials. Previously, students had indicated in writing their first and second choices as to grade level or subject area. As was customary, assignments coincided with the specified first choices, where possible, and no one was assigned to a grade level or subject area which she had not requested.

Upon receipt of student teacher assignments to the public school classrooms the department chairman divided the group according to geographical location of the several schools. Three education instructors in the elementary division were then given a list of students to be supervised. The number assigned to each varied according to the instructor's teaching load of campus classes. The project director was assigned one
group for supervision and was given opportunity to visit each student teacher for the purpose of collecting data for the study.

Preparation for observational visits in the public schools was made by means of a letter from the superintendent of schools expressing support of the project. (See Appendix C.) In addition, visits to each building principal and cooperating teacher were made for the purpose of giving more detailed information about the project plans.

Procedure for Training Observers

Two certificated elementary teachers were employed and trained in the use of the Flanders system of interaction analysis for recording verbal teacher behavior and the Galloway procedures for recording nonverbal teacher behavior. The historical development of the category methods was shared through discussion, film strips, and the published literature. Six tape-recorded lessons, made by student teachers in the fall semester, served as practice material. The tapes included lessons in reading, science, and language arts being taught in grades 1, 2, 3, 4, and 6. Following the development of observer skill in tabulating verbal behavior using a special form (see Appendix D), practice sessions were scheduled in classrooms. Observer reliability of .81 to .95 and .61 to .94 was established among two observer teams during the practice period for verbal behavior. Observer reliability
for nonverbal behavior was established as being .90 or better. The training period was continued for ten days.

A part-time secretary was employed and trained to compile the matrices from the tallies of recorded observations. This person also mailed to members of the experimental group the records made of the second observation.

The second observation was made during the sixth and seventh weeks of the semester for the full-time student teachers, and the third and twelfth weeks for the block plan student teachers. The third observation was made during the thirteenth and fourteenth weeks for the full-time student teachers and the eighth and sixteenth weeks for the block student teachers.

The two observers worked simultaneously and independently in twenty-minute observations, alternating five minutes of verbal tabulation with five minutes of nonverbal tabulation. A matrix was made from each observer tabulation. Since there were two observers for each observation, the tabulations of the two matrices were averaged, and a third matrix was made from the means. The values of the third matrix comprised the data used in the study. (See Appendix E.)

Statistical Treatment of the Data

The data obtained from the second and third observations of student teachers and the pre- and post-administrations of the MTAI were processed at the computer center at North Texas State University. The .05 level of significance was
designated as the point of rejection of the statistical null hypothesis.

Hypotheses 1, 2, 3, and 4 were tested separately by Fisher's *t* technique, using the difference of the means between the second and third observations for indirect, direct, encouraging and inhibiting tallies, respectively, for the experimental and control groups. Fisher's *t* was also used to test Hypothesis 5, pre- and post-test scores on MTAI. Pearson product-moment correlation was applied to data for Hypothesis 5.

Summary

Thirty-six female student teachers in elementary education were divided into experimental and control groups on the basis of tabulations of directness and indirectness following the first observation of their classroom behavior. Members of the experimental group received instruction in the purpose and use of the Flanders system and the Galloway procedure for recording verbal and nonverbal behavior. They also received feedback from observations of their individual verbal and nonverbal behavior made by trained observers. Members of the control group were likewise observed, but they received neither instruction nor feedback. The MTAI was administered at the beginning and end of the semester. Statistical treatment of the data included the use of Fisher's *t* and Pearson product-moment correlation.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This study was concerned with the improvement in supervision of elementary-level student teachers by teacher training personnel. The specific problem was to determine the effects of feedback of observation on the verbal and nonverbal behavior of student teachers as a supervisory technique. The subjects were thirty-six senior elementary education majors enrolled in student teaching in a southwestern university during one semester.

Primary emphasis was placed on the influence of observational feedback of indirect and direct verbal behavior and of the encouraging and inhibiting nonverbal behavior of student teachers. The Flanders system of interaction analysis was used to categorize observed verbal classroom behavior. The Galloway procedure was used for categorizing observed nonverbal classroom behavior. A parallel concern was the expressed attitude of student teachers toward pupils and toward teaching as indicated by pre-test and post-test scores on the MTAI. In addition, certain data were considered which, although not directly related to the hypotheses, were
This chapter is divided into three parts. The first part presents an analysis of the data for each hypothesis. The second part includes analysis of nonhypothesized data. The third part constitutes a summary of data analysis.

Statistical Analysis of the Data

The basic statistical techniques used in the treatment of data were Fisher's technique and Pearson product-moment correlation (8). The data were punched on cards and all statistical analyses were computed at the North Texas State University Computer Center. The .05 level of significance was designated as the point of rejection of the statistical null hypothesis.

The first two hypotheses related to observed verbal behavior. Hypothesis 1 stated that the verbal behavior of student teachers receiving feedback would show a greater increase in indirect talk between the second and third observations than would the verbal behavior of student teachers receiving no feedback. Hypothesis 2 stated that the verbal behavior of student teachers receiving feedback would become less direct in the classroom between the second and third observations than would the verbal behavior of student teachers receiving no feedback. Data relative to Hypotheses 1 and 2 are presented in Table 1. Post-test mean scores were
subtracted from pre-test mean scores to obtain the mean change. The minus signs shown in Table I and succeeding tables indicate a larger post-test mean score.

### TABLE I

**MEAN CHANGE IN VERBAL BEHAVIOR, EXPERIMENTAL AND CONTROL GROUPS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experimental Mean Change</th>
<th>Control Mean Change</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect verbal behavior</td>
<td>-.83</td>
<td>-.22</td>
<td>.20</td>
</tr>
<tr>
<td>Direct verbal behavior</td>
<td>1.11</td>
<td>.16</td>
<td>.45</td>
</tr>
</tbody>
</table>

The data for Hypothesis 1 yielded mean scores indicating an increase in indirect verbal behavior for both the experimental and control groups. The mean change was greater for the control group than for the experimental group. The difference in mean change between the groups was not statistically significant, and the statistical null hypothesis was accepted. The research form of Hypothesis 1 was rejected.

The data for Hypothesis 2 indicated a movement away from direct verbal behavior among both the experimental and control groups, with the experimental group making the greater change, as predicted. The mean change was not statistically significant, and the null hypothesis was accepted. The research hypothesis was rejected.
Hypotheses 3 and 4 of this study were concerned with nonverbal behavior, encouraging and inhibiting. Data relating to these two hypotheses are presented in Table II.

### TABLE II

**Mean Change in Nonverbal Behavior, Experimental and Control Groups**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experimental Mean Change</th>
<th>Control Mean Change</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouraging nonverbal</td>
<td>-2.88</td>
<td>-1.36</td>
<td>-.43</td>
</tr>
<tr>
<td>Inhibiting nonverbal</td>
<td>1.66</td>
<td>1.83</td>
<td>-.11</td>
</tr>
</tbody>
</table>

Hypothesis 3 stated that the nonverbal classroom behavior of student teachers receiving feedback would become more encouraging between Observations 2 and 3 than would like behavior of student teachers receiving no feedback. The mean change in both the experimental and the control groups was in the direction of more encouraging nonverbal behavior. The experimental group made the greater change, as predicted. The difference between the groups was not statistically significant, and the null hypothesis was accepted. Research Hypothesis 3 was rejected.

Hypothesis 4 stated that the nonverbal classroom behavior of student teachers receiving feedback would become less inhibiting between Observations 2 and 3 than would like
behavior of student teachers receiving no feedback. Table II indicated that both the experimental and control groups shifted toward less inhibiting nonverbal behavior. The difference in mean change between the two groups was too small to be significant. The null hypothesis was accepted, and research Hypothesis 4 was rejected.

One of the aspects of the study was to determine the relationship between verbal and nonverbal behavior, using separate methods for categorizing observed behavior. Hypothesis 5 stated that the data yielded by Observation 3 would show a moderate positive relationship between direct and inhibiting tallies, and between indirect and encouraging tallies for both the experimental and control groups. Table III presents the data relating to Hypothesis 5.

**TABLE III**

**PEARSON PRODUCT MOMENT CORRELATION COEFFICIENTS**
**AND LEVELS OF SIGNIFICANCE BETWEEN SPECIFIED VARIABLES, EXPERIMENTAL AND CONTROL GROUPS**

<table>
<thead>
<tr>
<th>Group</th>
<th>Direct and Inhibiting</th>
<th>Indirect and Encouraging</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>Level of Significance</td>
</tr>
<tr>
<td>Experimental</td>
<td>.62</td>
<td>.01</td>
</tr>
<tr>
<td>Control</td>
<td>.50</td>
<td>.05</td>
</tr>
</tbody>
</table>
Product moment correlation coefficients were used to make these comparisons. A positive relationship between direct verbal and inhibiting nonverbal behaviors for the experimental group was significant at better than the .01 level. A positive relationship was also indicated for the control group, with the correlation being significant at better-than-the .05 level. A sample correlation coefficient, it may be noted, is said to be significant if it leads to rejection of the hypothesis that the population coefficient is zero (7).

A smaller positive relationship was noted between indirect verbal and encouraging nonverbal behaviors for the experimental and control groups. The correlation coefficients were not statistically significant, although they might have been interpreted as a moderate positive relationship. The null hypothesis was accepted. Research Hypothesis 5 was accepted in part, however.

A parallel phase of this study was the attitude of student teachers toward children. This phase was related to Hypothesis 6, which stated that student teachers who received a profile of their verbal and nonverbal classroom behavior would show a significantly greater positive shift in attitudes involving interpersonal relationships with children than would student teachers who did not receive such a profile. Table IV presents the data pertaining to this hypothesis.
TABLE IV
MEAN CHANGE IN ATTITUDES, EXPERIMENTAL AND CONTROL GROUPS

<table>
<thead>
<tr>
<th>Variable</th>
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<th>Control Mean Change</th>
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<tr>
<td>MTAI scores</td>
<td>17.22</td>
<td>4.28</td>
<td>1.96*</td>
</tr>
</tbody>
</table>

*Significant at the .05 level.

Criterion measures were the difference scores between the pre-test and the post-test of the MTAI for both the experimental and the control groups. The difference in the mean change between the two groups was sufficiently large to be significant at the .05 level. The pre-test mean difference between groups was very small (t = .12). The change was in the opposite direction to that predicted. The null hypothesis was accepted, and research Hypothesis 6 was rejected.

Nonhypothesized Data Analysis
In addition to the sub-problems formulated by the hypotheses of this study, a review of the literature disclosed other related factors which were of sufficient importance to warrant supplementary consideration. A study by Furst and Amidon reviewed in Chapter II found that first grade reading teachers gave more directions and did more criticizing than did sixth grade reading teachers (3). With that study as a background, data accumulated in the present
study were analyzed in terms of whether primary and intermediate student teachers differ from each other in the amount of indirect and direct verbal behavior in the classroom. A second consideration was given to the shift in encouraging and inhibiting nonverbal behavior exhibited by primary and intermediate student teachers. A third consideration concerned the comparative shift of expressed attitudes toward pupils and teaching among primary and intermediate student teachers. A fourth consideration focused on the interrelationships of university course grades and post-MTAI scores. A comparison was made between grade points earned in all education courses (EGPA) with grade points earned in all college courses completed prior to the semester in which the student teaching was done (overall grade point average, OGPA). Further comparisons were made between grades assigned by college supervisors for student teaching (GST) and EGPA, and between GST and OGPA. Comparisons were also made between post-test scores on MTAI and three other variables, namely, EGPA, OGPA, and GST. Finally, a comparison was made between pre-test and post-test scores of the MTAI. The Teacher Characteristic Study lent impetus to this final consideration.

Ryan's study identified a number of factors related to teacher effectiveness (6). Among these were achievement in college courses, student teaching marks, and attitudes favorable to pupils. Data related to these characteristics were collected and analyzed in this study.
Table V presents data concerning shift in verbal behavior. The data showed no significant difference in indirect verbal behavior between the primary and intermediate levels. However, the intermediate group became more indirect than the primary group. The difference in direct verbal behavior between the two levels was significant at the .01 level. The primary student teachers used substantially less direct verbal behavior than did the intermediate student teachers.

**TABLE V**

**MEAN CHANGE IN VERBAL BEHAVIOR, PRIMARY AND INTERMEDIATE GROUPS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Primary Mean Change</th>
<th>Intermediate Mean Change</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect verbal behavior</td>
<td>- .20</td>
<td>-2.06</td>
<td>.96</td>
</tr>
<tr>
<td>Direct verbal behavior</td>
<td>2.90</td>
<td>-2.19</td>
<td>2.66*</td>
</tr>
</tbody>
</table>

*Significant at the .01 level.

Table VI presents data pertaining to the shift in nonverbal behavior among student teachers at the primary and intermediate levels. The mean change in encouraging and inhibiting nonverbal behaviors for primary student teachers revealed a decided shift toward more encouraging and less inhibiting behaviors. The shift in both encouraging and
inhibiting behaviors among intermediate student teachers was negligible. The difference between the two groups in inhibiting behavior was significant at the .05 level.

TABLE VI

MEAN CHANGE IN NONVERBAL BEHAVIOR, PRIMARY AND INTERMEDIATE GROUPS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Primary Mean Change</th>
<th>Intermediate Mean Change</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouraging nonverbal</td>
<td>-3.65</td>
<td>-.25</td>
<td>-.98</td>
</tr>
<tr>
<td>Inhibiting nonverbal</td>
<td>3.10</td>
<td>.06</td>
<td>2.12*</td>
</tr>
</tbody>
</table>

*Significant at the .05 level.

Table VII presents data pertaining to the comparative shift in expressed attitudes of student teachers as indicated by pre-test and post-test scores of the MTAI. Change in scores for both primary and intermediate student teachers was in a negative direction. There was negligible difference in the mean changes of the two groups.

TABLE VII

MEAN CHANGE IN ATTITUDES, PRIMARY AND INTERMEDIATE GROUPS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Primary Mean Change</th>
<th>Intermediate Mean Change</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTAI scores</td>
<td>10.90</td>
<td>10.56</td>
<td>.05</td>
</tr>
</tbody>
</table>
From studies discussed in Chapter II concerning the attitudes and personality of teachers the conclusion was reached that there was need for further research in the area of teacher attitudes as related to grade level taught (4, 9). Table VII comprises data which are organized on the basis of instructional level and teacher attitude. The data indicated that there was no difference among primary and intermediate student teachers regarding the shift of their attitudes toward pupils and teaching, as measured by comparative scores on the MTAI.

Table VIII presents data which became available in the present study showing correlations between selected variables. Three pairs of correlates showed consistent negative correlation in all groups. They were GST with post-MTIAI, EGPA with GST, and OGP with GST. The highest correlation shown by the data was between education grade point average and overall grade point average, with a range of .89 to .94. An inspection of the correlation coefficients for the experimental and control groups revealed eight correlations significant at the .01 level or better, four correlations significant at the .05 level or better, and two not significant. Correlation coefficients in the primary group indicated two that were significant at the .01 level, one at the .05 level, and four not significant. The intermediate group included four coefficients at the .01 level, one at the .05
**TABLE VIII**

**PEARSON PRODUCT MOMENT CORRELATION COEFFICIENTS OF SPECIFIED VARIABLES**

<table>
<thead>
<tr>
<th>Variables†</th>
<th>Experimental df = 16</th>
<th>Control df = 16</th>
<th>Primary df = 20</th>
<th>Intermediate df = 12</th>
<th>All subjects df = 34</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre- and post-MTAI</td>
<td>.78*</td>
<td>.67*</td>
<td>.61*</td>
<td>.75*</td>
<td>.71*</td>
</tr>
<tr>
<td>EGPA and post-MTAI</td>
<td>.60*</td>
<td>.55*</td>
<td>.49**</td>
<td>.77*</td>
<td>.56*</td>
</tr>
<tr>
<td>OGPA and post-MTAI</td>
<td>.56**</td>
<td>.67*</td>
<td>.50**</td>
<td>.70*</td>
<td>.57*</td>
</tr>
<tr>
<td>GST and post-MTAI</td>
<td>-.53**</td>
<td>-.54**</td>
<td>-.34***</td>
<td>-.59**</td>
<td>-.41**</td>
</tr>
<tr>
<td>EGPA and OGPA</td>
<td>.09*</td>
<td>.94*</td>
<td>.90*</td>
<td>.93*</td>
<td>.91*</td>
</tr>
<tr>
<td>EGPA and GST</td>
<td>-.05***</td>
<td>-.60*</td>
<td>-.35***</td>
<td>-.49***</td>
<td>-.41**</td>
</tr>
<tr>
<td>OGPA and GST</td>
<td>-.12***</td>
<td>-.48**</td>
<td>-.16***</td>
<td>-.52***</td>
<td>-.32***</td>
</tr>
</tbody>
</table>

†Abbreviations are used as follows:
- MTAI - Minnesota Teacher Attitude Inventory
- EGPA - Education grade point average
- OGPA - Overall grade point average
- GST - Grades in student teaching

* p < .01
** p < .05
***Not significant.
level, and two not significant. Inspection of correlation coefficients for all subjects revealed four that were significant at the .01 level, two at the .05 level, and one that was not significant.

Results of Data Analysis

The data secured from observation of indirect and direct verbal behaviors of student teachers were not significantly affected by observational feedback as done under the conditions of this study. Similarly, the data secured from observation of encouraging and inhibiting nonverbal behaviors were not significantly affected by feedback. However, the changes in indirect and direct verbal behavior and in encouraging and inhibiting nonverbal behaviors were in the predicted direction for both the experimental and the control groups.

A significant relationship was found between direct verbal and inhibiting nonverbal behavior for both the experimental and the control groups. The higher correlations were found in the experimental group.

A supporting parallel phase of this study concerned the change in expressed attitudes of student teachers about children and teaching. Data analysis indicated a significant mean difference between pre-test and post-test scores on the MTAI. The change was toward lower scores on the post-test, showing a negative shift in attitude. This
finding confirmed the results of studies done by Dunham, McCullough, and Carl Campbell (2, 5, 1).

The complexity of the problem of student teacher evaluation prompted the analysis of nonhypothesized data that were closely related to the study. The findings indicated a difference between primary and intermediate student teachers in indirect and direct verbal behavior. The intermediate group became more indirect than the primary group. The primary, however, became significantly less direct than the intermediate group. The difference between primary and intermediate groups was also apparent in encouraging and inhibiting nonverbal behavior. The trend was toward more encouraging and less inhibiting behavior. The primary group became less inhibiting than the intermediate group, with the difference being significant at the .05 level.

The final area, nonhypothesized data, to be considered was the interrelationships between education grade point average, overall college grade point average, and grades assigned for student teaching, and MTAI scores. The highest correlation noted was between education grade point average and overall grade point average. The correlation between pre- and post-MTAI scores was consistently high among the following groups: experimental, control, primary, intermediate, and for all groups taken together. Lack of correlation is evident between student teaching grades and other measures observed.
CHAPTER BIBLIOGRAPHY


CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to determine whether presenting the results of the observations of the verbal and nonverbal classroom behaviors to student teachers could effect a significant shift in those behaviors during the time span of one semester. Two techniques were used for the purpose. One was the Flanders system of interaction analysis which has attracted increasing attention since 1960 as an effective categorical method of observing and analyzing a teacher’s verbal classroom behavior. The other technique was the Galloway procedure, a categorical method which has proved to be useful in recording and analyzing a teacher’s nonverbal classroom behavior. A parallel aspect of the study was to determine the effects of the feedback from observations upon attitudes of student teachers toward the interpersonal relationships with children.

The subjects were thirty-six elementary education students enrolled in student teaching at a southwestern university during the spring semester of 1968. For statistical
purposes the subjects were divided into two numerically equal groups. One group, designated as experimental, was instructed in the nature, purpose, and application of the two methods of observation, and the members were provided with feedback from the observations of their classroom behavior made by trained observers. Members of the second group, designated as control, received neither information nor feedback concerning the Flanders system and the Galloway procedure. The independent variable was the presentation of feedback from observations, and the dependent variables were 1) the verbal and nonverbal behaviors of the student teachers and 2) the attitudes of student teachers toward interpersonal relationships with children. No significant difference was present between the experimental and control groups in verbal and nonverbal behavior and in MTAI scores at the beginning of the study.

Findings of the study indicate that feedback of classroom observation to student teachers was not conducive to change in verbal and nonverbal behavior. Direct verbal and inhibiting nonverbal behaviors appeared to be positively related. The relationship between indirect verbal and encouraging nonverbal behaviors, although positive, was low. The experimental group receiving feedback of classroom observations made a significantly greater negative shift in MTAI scores than did the control group which did not receive feedback. No differences existed between primary and intermediate student teachers regarding verbal and nonverbal
behaviors at the beginning of the study. Primary student teachers became less direct, more encouraging, and less inhibiting than did intermediate student teachers. The shift in attitudes toward children and teaching, as measured by the WTAI, did not differ between the two groups. A high correlation existed between education grade point average and overall grade point average. However, a low correlation was observed between grades in student teaching and both education grade point average and overall grade point average.

Findings

The following findings were formulated from an analysis of the data collected in the study:

1. Verbal behavior of elementary student teachers receiving feedback (experimental group) and of elementary student teachers receiving no feedback (control group) became more indirect between the second and third observations. The change was not statistically significant for either group, but the larger change occurred in the control group.

2. Verbal behavior of elementary student teachers receiving feedback and those receiving no feedback became less direct between the second and third observations, with the greater change occurring in the group receiving feedback.

*The Flanders categories are not continuous scales, but are based on observations of different factors. See footnote to Appendix A, p. 110. The Galloway categories, by contrast, were scaled on a continuum designated as encouraging-inhibiting communication. See Chapter II, p. 55.
(experimental). There was no significant difference in the mean change between the two groups.

3. Nonverbal classroom behavior of elementary student teachers receiving feedback and of those receiving no feedback became more encouraging, with the experimental group making the greater change. The difference in the mean change between the two groups was not significant.

4. Nonverbal classroom behavior of elementary student teachers receiving feedback and of those receiving no feedback became less inhibiting, with the difference between the two groups being so small as to be negligible.

5. A positive correlation was found between direct verbal and inhibiting nonverbal classroom behaviors of elementary student teachers in both the experimental and control groups. Low positive correlation was found between indirect verbal and encouraging nonverbal classroom behaviors of elementary student teachers in both experimental and control groups.

6. A negative shift in expressed attitudes toward children and teaching, as measured by pre- and post-test scores on the MTAI, occurred in both the experimental and control groups of elementary student teachers, with a significantly greater shift occurring in the experimental group.

7. A shift toward more indirect verbal behavior occurred among both the primary and intermediate student
teachers, with the intermediate group showing the greater, although statistically insignificant, change.

8. A shift toward less direct verbal behavior occurred among the primary student teachers, and a shift toward more direct verbal behavior occurred among intermediate student teachers, creating a difference between the two groups that was significant.

9. A shift toward more encouraging nonverbal behavior occurred among both primary and intermediate student teachers, with the greater shift occurring among the primary group, although not significant. A shift toward less inhibiting nonverbal behavior occurred among both groups, with the greater shift occurring among the primary group. The difference between the two groups was statistically significant at better than the .05 level.

10. Changes in pre-test and post-test MTAT scores for both primary and intermediate student teachers were in a negative direction, with negligible difference between the mean change of the two groups.

11. A strong positive correlation was found between education grade point average and overall grade point average, and between pre-test and post-test scores on the MTAT. A low negative correlation was found between education grade point average and grades in student teaching, and between overall grade point average and grades in student teaching.
Conclusions

The following conclusions were based on the findings of this study:

1. Observational feedback was not effective in influencing change in classroom verbal behavior among elementary student teachers.

2. Observational feedback was not effective in influencing change in classroom nonverbal behavior among elementary student teachers.

3. A stronger positive relationship existed between direct verbal and inhibiting nonverbal behavior than existed between indirect verbal and encouraging nonverbal behavior among elementary student teachers.

4. At the conclusion of the semester of student teaching, the expressed attitudes of elementary student teachers toward children and teaching as measured by MTAI were more nearly negative than at the beginning of the semester.

5. Some factors not within the scope of this study appear to have been operating in the assigning of grades for student teaching.

6. Differences existed between primary and intermediate student teachers in verbal behavior, with primary student teachers becoming less direct and intermediate student teachers becoming more direct.
7. Differences existed between primary and intermediate student teachers in nonverbal behavior, with primary student teachers becoming less inhibiting.

Implications

The following statements based on the findings of the study, although not conclusive, seem to qualify as implications:

1. Instruction in the nature and use of category systems is not alone sufficient to bring about significant change in the verbal and nonverbal classroom behavior of elementary student teachers.

2. Influences appear to be present in the school classroom situation which negatively affect the factors measured by the MTAI.

3. The differences found between primary and intermediate student teachers in verbal and nonverbal behavior suggest the need for flexibility in the interpretation of data derived from the use of the systems at different grade levels.

Recommendations

The following recommendations are made on the basis of the conclusions of this study:

1. A continuation of the study of verbal and nonverbal behavior of the subjects who participated in the present
study should be made, including periodic observations, during the first three years of teaching.

2. A study similar in design to the present study is suggested in which a larger sample of student teachers is used and the variables of subject taught and pupil age are controlled.

3. Experimental studies could be made to determine the feasibility of using the Flanders matrices and Galloway summaries as means of furnishing objective data that could be used under controlled conditions in elementary student teacher-college supervisor conferences to encourage commitment to changed student teacher behavior.

4. Studies should be made to explore the bases for assessing student teacher behavior and assigning grades in student teaching.
### APPENDIX A

**FLANDERS' SYSTEM FOR CATEGORIZING VERBAL BEHAVIOR**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. * ACCEPTS FEELING:</td>
<td>accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.</td>
</tr>
<tr>
<td>2. * PRAISES OR ENCOURAGES:</td>
<td>Praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying, &quot;um hm?&quot; or &quot;go on&quot; are included.</td>
</tr>
<tr>
<td>3. * ACCEPTS OR USES IDEAS OF STUDENT:</td>
<td>clarifying, building, or developing ideas suggested by a student. As a teacher brings more of his own ideas into play, shift to category five.</td>
</tr>
<tr>
<td>4. * ASKS QUESTIONS:</td>
<td>asking a question about content or procedure with the intent that a student answer.</td>
</tr>
<tr>
<td>5. * LECTURING:</td>
<td>giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions.</td>
</tr>
<tr>
<td>6. * GIVING DIRECTIONS:</td>
<td>directions, commands, or orders to which a student is expected to comply.</td>
</tr>
<tr>
<td>7. * CRITICIZING OR JUSTIFYING AUTHORITY:</td>
<td>statements intended to change student behavior from nonacceptable to acceptable patterns; bowing someone out; stating why the teacher is doing what he is doing; extreme self-reference.</td>
</tr>
</tbody>
</table>

---

8. Student Talk--Response: A student makes a predictable response to teacher. Teacher initiates the contact or solicits student statement and sets limits to what the student says.

9. Student Talk--Initiation: talk by students which they initiate. Unpredictable statements in response to teacher. Shift from 8 to 9 as student introduces own ideas.

10. Silence or confusion: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

*There is no scale implied by these numbers. Each number is classificatory, it designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.
APPENDIX B

GALLOWAY’S PROCEDURES FOR CATEGORIZING NONVERBAL BEHAVIOR

Encouraging Communication

1. Enthusiastic Support. A nonverbal expression implying enthusiastic support of a pupil’s behavior, pupil interaction, or both. An expression that manifests enthusiastic approval, unusual warmth, or emotional support; being strongly pleased. An expression that exhibits strong encouragement to pupil. Examples of nonverbal determinants are as follows:

1. Facial expression. Any expression that implies support or approval of some behavior or interaction occurring in the classroom. Any facial expression that connotes enjoyment, pleasure, or satisfaction with the pupil, or the topic.

2. Action. Any movement or action that portrays enthusiastic approval and active acceptance in an approving way, e.g., a pat on the back, or a warm greeting of praise. An act that endorses approval of the pupil, and gives strong encouragement.

3. Vocal language. Any voice quality indicating pleasure or warm acceptance. The use of the voice through intonation or inflection suggests approval and support.

2. Helping. A responsive act that relates to modifications in the teacher’s behavior which suggest a detection of expressed feelings, needs, urgencies, problems, etc., in the pupil. A communicative act that performs a function which helps a pupil or answers a need. An act that meets a pupil’s request; a nurturant act. This act is the spontaneous reaction that the teacher manifests in the form of an actual response. It may be either intellectually supporting, or problem-centered. Examples of nonverbal determinants:

---

1. **Facial expression.** An expression that implies, "I understand," or "I know what you mean," which is followed up by some kind of appropriate action. An expression that is consistent and sensitive to the pupil's need. A facial expression that registers an acceptance and an understanding of a pupil's problem.

2. **Action.** A movement or action that is intended to help or perform a function for the pupil. The action of the teacher is consistent with the need expressed by the pupil. Any action that suggests understanding and assistance.

3. **Vocal language.** A vocal utterance that is acceptant and understanding. The voice may be tender, compassionate, or supportive; or it may be a laugh or vocalization that breaks the tension.

3. **Receptivity.** A nonverbal expression that implies a willingness to listen with patience and interest to pupil talk. By paying attention to the pupil, the teacher exhibits an interest in the pupil, and implicitly manifests approval, satisfaction, or encouragement. Such a nonverbal expression implies to the pupil that "lines of communication are open."

1. **Facial expression.** Maintains eye contact with pupil in a systematic fashion, exhibiting interest in pupil, pupil's talk, or both. Facial expression indicates patience and attention. Other expressions suggest a readiness to listen, or an attempt at trying to understand.

2. **Action.** The teacher's demeanor suggests attentiveness by the way the total body is presented and movements used. An expressional pose or stance that suggests alertness, readiness, or willingness to have pupils talk. Teacher may be paying attention to pupil talk, even though eye contact is not established. A moving gesture that indicates the pupil is on the "right track." A gesture that openly or subtly encourages the pupil to continue.

3. **Vocal language.** A vocal utterance or vocalization that augments pupil talk, or that encourages the pupil to continue. An utterance indicating "yes-yes" (um-hm), "go on," "okay," "all right," or "I'm listening." Although in a sense, the utterance can be characterized as an interruption, it in no way
interferes with the communication process; indeed, such a vocalization supplements, and encourages the pupil to continue.

4. Pro forma. A communicative act that is a matter of form, or for the sake of form. Thus, the nature of the act, whether it is a facial expression, action, or vocal language, conveys little or no encouraging or inhibiting communicative significance in the contextual situation; a routine act. When the pupil is involved in a consummatory act, or when it is inappropriate or unnecessary for the teacher to listen or to respond, pro forma applies.

Inhibiting Communication

5. Inattentive. A nonverbal expression that implies an unwillingness or inability to engage attentively in the communicative process, thus, indicating disinterest or impatience with pupil talk. By being inattentive or disinterested the teacher inhibits the flow of communication from pupils.

1. Facial expression. Avoids eye contact to the point of not maintaining attention; exhibits apparent disinterest, or impatience with pupil by showing an unwillingness to listen.

2. Action. An expressional pose or movement that indicates disinterest, boredom, or inattention. A demeanor suggesting slouchy or unalert posture. Body posture indicates "don't care attitude," or an ignoring of pupil talk. Postural stance indicates internal tension, preoccupation with something else, or apparently engrossed in own thought. Either a moving or completed hand gesture that suggests the teacher is blocking pupil talk, or terminating the discussion.

3. Vocal language. A vocal utterance that indicates impatience, or "I want you to stop talking."

6. Unresponsive. A communicative act that openly ignores a pupil's need, or that is insensitive to pupil's feeling; a tangential response. Display of egocentric behavior or a domination of communication situation by interrupting or interfering in an active fashion with the outgoing process of communicating between pupils,
or a failure to respond when a response would ordinarily be expected by ignoring a question or request.

1. **Facial expression.** An expression that is troubled, unsure, or unenthusiastic about the topic in question. An expression that threatens or cajoles pupils; a condescending expression; an unsympathetic expression; or an impatient expression. An obvious expression of denial of feeling of pupil, or noncompliance of a request.

2. **Action.** Any action that is unresponsive to or withdrawing from a request or expressed need on the part of the pupil. An action that manifests disaffection or unacceptance of feeling. A gesture that suggests tension or nervousness.

3. **Vocal language.** A vocalization that interferes with or interrupts ongoing process of communication between pupils, or from pupil to teacher. Such a vocalization, when it is an obvious interruption, appears unresponsive to the flow of communication and to the pupils.

7. **Disapproval.** An expression implying strong disapproval of a pupil's behavior or pupil interaction. An expression that indicates strong negative overtones, disparagement, or strong dissatisfaction.

1. **Facial expression.** The expression may be one of frowning, scowling, threatening glances. Derisive, sarcastic, or disdainful expression may occur. An expression that conveys displeasure, laughing at another, or that is scolding. An expression that "sneers at" or condemns.

2. **Action.** Any action that indicates physical attack or aggressiveness, e.g., a blow, slap, or pinch. Any act that censures or reprimands a pupil. A pointed finger that pokes fun, belittles, or threatens pupils.

3. **Vocal language.** Any vocal tone that is hostile, cross, irritated, or antagonistic to pupil. The vocalization is one of disappointment, depreciation, or discouragement. An utterance suggesting unacceptance.
APPENDIX C

AUTHORIZATION FROM THE SUPERINTENDENT

WICHITA FALLS PUBLIC SCHOOLS
Department of Supervision
February 8, 1968

To the Elementary Principals:

In order to fulfill in part the requirements for her doctorate, Mrs. Oneta Furr is making a study of the verbal and non-verbal behavior of teachers in the classroom. The data for this study will be obtained by observing the student teachers who are teaching during this semester. Therefore, it will be necessary that trained observers visit the class while the student teacher is teaching.

Mrs. Furr has been approved for this study and she will discuss the details of the procedure with you. Please make it clear to the critic teacher that she is not to be observed. Only the student teacher will be involved.

Sincerely,

T. F. Barnett
Assistant Supt. - Instruction

Approved:

Joe B. McNiel
Superintendent of Schools

cc: Mrs. Oneta Furr
### APPENDIX D

#### TABULATION FORM

VERBAL AND NONVERBAL OBSERVATION

<table>
<thead>
<tr>
<th>Student's Name</th>
<th>School</th>
<th>Observer</th>
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<tbody>
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<td>Grade</td>
<td>Subject</td>
<td>Date</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verbal Categories</th>
<th>Total</th>
<th>Nonverbal Categories</th>
<th>Total</th>
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### APPENDIX E

**Observation Matrix of Verbal Behavior Used with Experimental Group**

<table>
<thead>
<tr>
<th>Name of Teacher</th>
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<th>School</th>
<th>Date</th>
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<table>
<thead>
<tr>
<th>Name of Observer</th>
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</thead>
</table>

<table>
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| Totals | 6 | 17 | 32 | 3 | 5 | 92 | 8 | 88 |       |

| Matrix Total | 251 |

117
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