

THE EFFECTS OF TRAINING IN INTERACTION ANALYSIS ON
TEACHERS' INTERPERSONAL BEHAVIOR

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THE EFFECTS OF TRAINING IN INTERACTION ANALYSIS ON
TEACHERS' INTERPERSONAL BEHAVIOR

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CHAPTER I

INTRODUCTION

The teacher's classroom behavior has been analyzed from almost every conceivable perspective in the past twenty years. Teacher educators, school administrators, supervisors, and teachers have discussed and written about this most important aspect of American education. This concern about teacher behavior reaches every person at some time in his life.

Flanders' System of Interaction Analysis has fast become a well known instrument for analyzing the teacher's verbal behavior in the classroom (1, 2, 14, 15, 20). One reason for its growth in popularity is that it gives the teacher a reliable source of feedback on his verbal behavior from which he can evaluate himself. On the basis of this evaluation, he can set out to change his behavior if he so desires.

Truax's Interpersonal Scales have also become widely known in the area of counselor education (28, 29, 30, 31). Truax's scales give the counselor an opportunity to ascertain where he stands in relation to certain levels of accurate empathy, genuineness, and nonpossessive warmth (28). Much as Flanders' system allows objective information concerning verbal behavior in teacher education, Truax's scales allow the counselor to make an objective observation of his verbal behavior. Even though Truax's scales have been used for the

most part in the training of counselors and psychotherapists, there have been studies using the scales in other teaching situations (28, 29).

Studies indicated that training in interaction analysis results in a teacher's effecting greater achievement in his students (2, 14, 15). According to Truax, student learning is enhanced by teachers who are genuine (congruent), and are capable of expressing unconditional positive regard (warmth), and empathy to their students (28). Hough (18) states that these elements of empathy, genuineness, and warmth can be observed through the use of Flanders' System of Interaction Analysis. Therefore, in view of the above findings, it seems logical to consider the possibility that training in interaction analysis actually increases the elements of warmth, empathy, and genuineness within the trainees. The exploration of such a possibility could afford a degree of enlightenment concerning a possible reason why the training of teachers in interaction analysis does result in their effecting better learning within their students.

Statement of the Problem

The problem was to determine the effects of training in interaction analysis upon teachers' interpersonal behavior in the classroom as perceived by their students.

Purposes of the Study

The specific purposes investigated were to ascertain the effect of training in interaction analysis upon the levels of

1. accurate empathy in teachers,
2. nonpossessive warmth in teachers,
3. genuineness in teachers, and
4. an analysis of the relationship between interaction analysis and the interpersonal behavior of the classroom teacher in view of its implications in teacher education.

Hypotheses

The major hypotheses treated by this study were as follows:

1. Teachers who have participated in a training program in Flanders' System of Interaction Analysis will demonstrate a statistically significant mean increase on accurate empathy as measured by the Relationship Questionnaire when compared with teachers who have not had this training.
2. Teachers who have participated in a training program in Flanders' System of Interaction Analysis will demonstrate a statistically significant mean increase on nonpossessive warmth as measured by the Relationship Questionnaire when compared with teachers who have not had this training.
3. Teachers who have participated in a training program in Flanders' System of Interaction Analysis will demonstrate a statistically significant mean increase on genuineness (self-congruence) as measured by the Relationship Questionnaire when compared with teachers who have not had this training.

Background and Significance of the Study

The most important factor in developing a proper climate in the classroom is that of the teacher's verbal behavior. This behavior sets the tone for any of the activities that occur within the classroom setting. Also, the success or failure of classroom activities is dependent upon how the students perceive the teacher's behavior. In short, the teacher is in charge, and what happens is ultimately dependent upon the quality of interaction that the teacher initiates.

The earliest studies of spontaneous pupil and teacher behavior by Anderson (3) were based on the observation of "dominative" and "integrative" behavior of teachers. Dominative behavior indicated that the teacher dictated almost every move of the students. Integrative behavior was that of giving the students more freedom in the classroom. These studies found that when either dominative or integrative behavior predominates, that type of behavior continues and increases even when the teacher is out of the room. Also, that once a teacher develops one of these patterns of behavior, it will probably continue on into the next year. Furthermore, the findings indicated that pupils show more spontaneity, initiative, voluntary social contributions, and contributions to problem-solving under teachers showing a higher proportion of integrative contacts. Finally, it was found that the students under teachers displaying dominative behavior are more easily distracted from school work and, although they show

greater compliance to teacher domination, they tend to reject the teacher personally.

Lippitt and White's study (21) with adults' influence on male groups generally confirmed the findings of Anderson and others. Flanders (13), through a laboratory situation, exposed students to contrasting teacher behaviors. The predominant dominative behavior of the teacher reduced the student's ability to recall and reduced disruptive anxiety and changes in heartbeat rate. Integrative contacts produced opposite trends in pupil reactions. Cogan (10) did a large cross-sectional study and found that students did more assigned and extra school work for teachers whom they perceived as being integrative as contrasted with those that were perceived as being dominative.

Since the Anderson studies, educational researchers and others have attempted to categorize teacher behavior in the classroom in many ways. Some category systems have even included classroom climate. The most important systems that have evolved since the Anderson studies are those by Bales, Withall, Medley and Mitzel, and Flanders (2, 8, 21, 32).

Bales' Interaction Process Analysis (1950) consisted of twelve categories and required that the observer be present in the classroom at the time the recording was done (8). Withall (32) developed the Social-Emotional Climate Index, which was a refinement of the Bales' system. Withall had only seven categories. Medley and Mitzel (22) developed the Observation

Schedule and Record Technique (OSCAR) using some of Withall's methods plus those of their own.

Flanders' System of Interaction Analysis (2) is divided into three main areas--teacher talk, student talk, and silence or confusion. (See Appendix A.) These three areas are divided into ten categories. Teacher talk includes categories one through seven; student talk, categories eight and nine; and silence or confusion, category ten. Teacher talk is either indirect (categories one through four) or direct (categories five through seven). Percentages of teacher talk in these categories determine whether a teacher is direct or indirect. Flanders' System of Interaction Analysis is perhaps the most widely used category system today.

Flanders (13) isolated junior high school teachers whose pupils had learned the most and the least after a two-week experimental program in mathematics. He found the teachers of the higher-achieving pupils used five to six times as much acceptance of student ideas and encouragement of student ideas; they used five to six times less direction and criticism of student behavior; they talked 10 per cent less; and they encouraged two to three times more student-initiated talk. Amidon and Giammetto (1) compared teachers of high-achieving pupils with those of low-achieving pupils and found similar results.

Kirk conducted a study (20) in which an experimental group of student teachers in elementary education who were taught interaction analysis training. He found the experimental

group to be much more indirect; that is, they talked less, had more pupil-initiated talk, and accepted pupil ideas more often than did the student teachers in the control group.

Several studies (1, 2, 14, 15, 20) have indicated that training in Flanders' System of Interaction Analysis does help the teacher realize the importance of what he says and how much he says in the classroom. Therefore, it does help create a more desirable learning atmosphere where the student is accepted, encouraged, and made to feel freer in expression of his feelings.

Arthur Combs (11) preferred to think of good teaching as a kind of helping relationship. He went further by saying that all helping relationships, wherever they are found, seem to have a high degree of similarity; no matter where they are --in the classroom, the counseling office, in psychotherapy, or in the relations between teachers and supervisors, supervisors and principals, or administrators and staff.

Truax and Carkhuff (28) have discussed this same helping relationship and go quite a bit further in defining the ingredients that comprise such a relationship. They say that in a helping relationship which produces positive behavioral change in the person being helped, there is a significantly higher level of accurate empathy, genuineness, and warmth than is found in relationships that produce negative behavioral change. Truax has developed rating scales which measure levels of the three ingredients. From the rating scales, Truax

developed Truax Relationship Inventory. The Truax Relationship Inventory will be used as a measuring device in this study.

The present study was to determine if training in Flanders' System of Interaction Analysis will cause the teacher to be aware of his verbal behavior in such a way as to result in his being more accepting (warm), genuine, and empathic.

Definitions of Terms

The following definitions apply to certain selected terms throughout the study:

1. Accurate empathy.--The teacher's sensitivity to current feelings of his students in conjunction with his verbal facility to communicate this understanding in a language attuned to the student's current feelings. At a high level of accurate empathy the message "I am with you" is unmistakably clear.

2. Nonpossessive warmth.--The acceptance of the student as a person with human potentialities. It involves a non-possessive caring for the student as a separate person along with a willingness to share equally his joys and aspirations or his depressions and failures. In addition, the student is valued as a person without contamination from an evaluation of his behavior or thoughts. The teacher's response to the student's thoughts or behavior is a search for their meaning or

value within the student rather than an expression of approval or disapproval.

3. Teacher genuineness.--At the moment, the teacher is really whatever his response denotes. It does not mean the teacher must disclose his total self, but only that whatever he does show is a real aspect of himself. Thus the teacher's response must be sincere, not one that grows out of defensiveness; nor is it a merely "professional" response that has been learned and repeated. In essence, to be "genuine" is to lack pretension or defensiveness.

4. Flanders' System of Interaction Analysis.--An observational tool which classifies the verbal behavior of teachers and students into categories.

5. Matrix.--The tool on which the observed classroom verbal behaviors are recorded to facilitate understanding of the relationships among categories.

Limitations of the Study

1. Variables other than the training in Flanders' System of Interaction Analysis may operate to influence perceived levels of the three interpersonal qualities. This limitation was imposed because it was not possible to control all environmental factors. There was no known reason to suppose that extraneous factors would not cancel themselves out.

2. This study was limited in time to the spring semester from January until May of 1970 and geographically to the

two high schools involved in the Dallas Independent School District.

Basic Assumptions

1. It was assumed that the twelve hours of training in Flanders' System of Interaction Analysis was adequate for the experimental group to become proficient in tallying classroom interaction and recording in a matrix classroom analysis. This assumption is in keeping with Flanders' recommendation for training.

2. It was assumed that the number of questionnaires filled out by the students of one class, selected at random, would reflect a representative sample of the overall interpersonal behavior of the teacher.

Instruments

The Truax Relationship Questionnaire is a 120-item true-false questionnaire developed by Charles B. Truax in 1963. The questionnaire measures the student's perception of the qualities of interpersonal relations. Reliability and validity of the questionnaire are tied closely to the reliability and validity of the interpersonal scales developed by Truax and Carkhuff (28), which are described in the following paragraphs.

The Accurate Empathy Scale is an attempt to define nine degrees of accurate empathy, beginning with an almost complete lack of empathy and continuing to a level where the teacher

unerringly responds to the student's full range of feeling and recognizes each emotional nuance and deeply hidden feeling.

The Nonpossessive Warmth Scale is an attempt to define five degrees of nonpossessive warmth, beginning with an almost complete lack of warmth and continuing to a level where the teacher unerringly communicates to the student a deep and genuine caring for him as a person with human potentialities, uncontaminated by evaluations of his thoughts or behaviors.

The Teacher Genuineness Scale consists of a five-point scale beginning with a teacher who conveys explicit evidence of a very considerable discrepancy between what he says and what he experiences and continuing to a level where the teacher is freely and deeply himself in the relationship.

Reliability of the scales has been established in the correlations for twenty-eight studies involving a variety of therapist and patient populations. (See Appendix D.)

Validity of the scales is difficult to assess. According to Truax,

The reader can assess the face validity of the scales themselves as he reads them. Beyond that, we know from the evidence that these scales are significantly related to a variety of client therapeutic outcome. From this we might say that whatever they are measuring is what we believe the theory should say constitutes central therapeutic ingredients. Moreover, what the scales do indeed measure is what the fields of counseling and therapy should make central aspects of training and practice (28, p. 44).

According to Truax and Carkhuff (28) the Truax Relationship Questionnaire's measurement of the three central

ingredients correlate very low (correlation of .10 to .20) when used with hospitalized mental patients. This was due to the great fluctuation of attitude these patients demonstrate from one day to the next and proves to be totally unreliable. However, on less disturbed clients such as juvenile delinquents, the relationship questionnaire correlated between .53 and .56 with the ratings made from objective tape recordings (28).

The reliability of the questionnaire was tested on a more normal population in the fall of 1969 at North Texas State University to a group of thirty-six freshman and sophomore students. Its purpose was to provide more consistent information and enhance the instrument's use. Using test re-test method two weeks apart under as identical testing situations as possible a pearson-product correlation of .83 was obtained. (See Appendix E.)

Based on the preceeding information, the questionnaire should provide reliable information from a group of high school students. Validity of measuring these three ingredients is still in question. This validity will perhaps remain in question until more comprehensive studies of this type can be conducted in our schools.

The instrument is scored on a positive total-score basis. This means that there is a separate score for each of the three interpersonal qualities. The total score is 165 which includes 45 for teacher empathy, 63 for teacher warmth, and 57 for teacher genuineness. Since the answers are simply true or

false, there is considerable over-lapping and a wrong score will simply lessen the total score. Therefore, there can be no negative scores. The scores could possibly range from 0 to 165.

Procedures for Collecting the Data

The thirty-two teachers involved in this study were volunteers from the W. T. White High School and Hillcrest High School in the Dallas Independent Public School District. These schools were selected for the study because of their proximity to one another, their similar size, educational philosophy, curricular offerings, and the fact that they were both located in the same upper-middle socio-economic area of the city.

There was an experimental and a control group. The experimental group came from W. T. White High School and the control group from Hillcrest High School.

All of the teachers were pre-tested with the Truax Relationship Questionnaire (See Appendix B) prior to the training sessions in interaction analysis. Each teacher drew a number which represented the class that was to complete the questionnaire. Enough questionnaires for the class to fill out were given to each teacher. Verbal and written instructions were given to the teacher so that they would know what to say at the time of testing. (See Appendix F and G.) These instructions also contributed to uniformity of the separate

testing situations. The questionnaires were numbered and students did not sign their names in order to insure freedom to answer honestly. The teachers were asked not to read the questionnaires so that they would not immediately become ego-involved with the student's answers.

After the pre-test the experimental group was given twelve hours of training in Flanders' System of Interaction Analysis. (See Appendix C.) This training was a part of the Staff-Development Program of the Dallas Public Schools. The teachers were afforded released time of an hour and a half per session for eight sessions.

The control group from Hillcrest High School underwent a self-evaluation program during the same period of staff-development. Each department of Hillcrest was involved in self-evaluation as their staff-development.

At the end of the training period the teachers were given a post-test of the Truax Relationship Questionnaire. The questionnaires were filled out by the same pupils that filled them out for the pre-test.

Procedure for Treating the Data

The data were treated through the use of analysis of covariance with the pre-test being the covariant. A significance level of .05 was required for the rejection of the null hypotheses.

The statistical treatment of analysis of covariance was done by the IBM Computer Center of North Texas State

University. The programming of the analysis of covariance was programmed from the "Health Sciences Computing Facility," of the University of California at Los Angeles.

Explanation of the function and rationale for using analysis of covariance is best explained from John T. Roscoe's Fundamental Research Statistics (26, pp. 254-256).

The analysis of covariance is a blending of regression and the analysis of variance, which permits statistical rather than experimental control of variables. The result is equivalent to matching the various experimental groups with respect to the variable or variables being controlled.

The analysis of covariance consists essentially of determining that a proportion of the variance of the criterion existed prior to the experiment, and this proportion is eliminated from the final analysis. It should be immediately apparent that two substantial benefits accrue from such a procedure: (1) any variable that influences the variation of the criterion variable may be controlled, and (2) the error variance in the analysis is substantially reduced.

The analysis of covariance is concerned with concomitant variation in the criterion variable and a variable whose relationship to the criterion is to be controlled. Covariance may be defined as the mean of the products (for paired variables) of the deviations from the mean, and it may be calculated from the formula:

$$\text{Cov} = \frac{SP}{N}$$

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CHAPTER II

A REVIEW OF THE LITERATURE AND RELATED RESEARCH

Modern psychological and educational research has shed a great deal of light on what should be happening in our schools' classrooms. The past fifteen years of educational research has dealt primarily with the teacher, how he conducts himself, and particularly his verbal behavior. The purpose of this chapter was to bring some of these studies together and attempt to show how previous research points to the importance of this study. This compilation by no means exhausts the extensive research in the area, but it does provide a sufficient overview of the literature.

The review of related literature was concerned with the following areas:

1. Research Related to the Development of Observational Systems
2. Research Related to the Use of Interaction Analysis with In-Service Education of Teachers
3. Research Related to the Use of Interpersonal Scales in Teaching and Related Fields
4. Communication Theory and Its Relation to the Study
5. Relationship of the Reported Research to the Study

Research Related to the Development of Observational Systems

Medley and Mitzel (31) reported that as early as 1914 a supervisor named Horn was making some attempts to ascertain the distribution of participation by pupils in the lesson by the use of circles and squares as symbols representing actions of both the teacher and pupils.

Most of the early investigations into teacher behavior were conducted by supervisors. Horn was a supervisor and the next contributor to objective measurement of classroom behavior was A. S. Barr (10), who was also a supervisor. He was interested in producing some type of objective terminology for supervision by using symbols and abbreviations for behaviors. Most of Barr's work was concerned with characteristics of good and poor social studies teachers and obtained a great variety of data which were quite cumbersome. These data gave some common language that was used in helping supervisors communicate more easily.

C. D. Jayne (23), in the 1940's, tried to combine items into dimensions which could differentiate between teachers and classes. Through the use of sound recordings he identified 184 behaviors of teachers. He was studying the relationship between specific activities and pupil changes. This study was only a descriptive type study that helped with identification of the various behaviors.

Also in the 1940's H. H. Anderson and his colleagues (4) began categorizing teacher behavior into areas of either

dominative or integrative behavior. Dominative behavior had to do with the ways in which a teacher controls the classroom situation. As would be expected, integrative behavior is the opposite, that is, ways in which a teacher tries to get pupils to synthesize and integrate what they learn.

Anderson and his colleagues found that whatever kind of behavior the teacher showed, it tended to spread throughout the classroom. In fact, it perpetuated more of the same kind of behavior. They also found that integrative behavior incited spontaneous behavior on behalf of the students and that dominative behavior incited more inhibited reactions such as being less interested in their work and almost a complete rejection of the teacher.

Most of the findings of Anderson and his associates were confirmed by Lippitt and White (26), who found that the kind of behavior exhibited by the leader was very important in determining group behavior. This was discovered by studying the effects of adult leader's influence on groups of boys when they varied the leader's behavior. The categories of behavior were authoritarian, democratic, and laissez-faire.

A complex technique for the assessment of social-emotional climate in the classroom was developed by Withall (45) in the late 1940's. Much like Lippitt and White (26) and Anderson (4) Withall's technique tended to classify teacher behavior into two major categories.

In two separate studies, Medley and Mitzel (29, 31) began the development of the OScAR (Observation Schedule and Record) for the purpose of providing quantitative data from observing classroom teachers. The first study included forty-nine first year teachers in grades three through six of nineteen public schools scattered throughout New York City. Each teacher was visited twelve times in all; each of the six observers who took part saw every teacher twice. The second study was conducted through closed circuit television using student teachers as subjects. The study involved 216, twenty-five minute films which consisted of four films of each of the fifty-four student teachers. The data was used to complete work on the OScAR observation technique. The OScAR observation technique is a list of behaviors that are demonstrated by teachers and pupils and an observer charts classroom occurrences on a check list which is divided into three major factors. These factors are Emotional Climate, having to do with the relative amount of hostility observed; Verbal Emphasis, having to do with relative emphasis on verbal and traditional school room activities; and Social Structure, having to do with the relative degree of pupil-initiated activity.

The "Prova Code" objective observational system was developed by Marie Hughes and her associates (21). Two observers were used to record teacher behavior and pupil response from categories of thirty-one specific teacher or pupil functions. The objective of this particular study was to describe

teaching in the elementary schools from kindergarten through the sixth grade. Hughes (21) found that the most significant teacher function was that of control. She describes this as setting standards, structuring, and organizing the classroom in line with some focus or purpose.

Early in the 1960's Flanders (16) developed a system of interaction analysis which was a continuation of the work of Anderson and his associates, Bales, Lippit and White, Withall and Medley, and Mitzel (4, 9, 26, 31). Early findings of Flanders (16) indicated that pupils of indirect teachers had more positive attitudes than the pupils of direct teachers. These studies also found that an indirect teaching style was significantly related to improved content learnings in mathematics and social studies at the junior high level.

Flanders' System of Interaction Analysis is perhaps the most widely used observational tool today. It has been used in many research studies and programs largely because it gives quantifiable information that can be statistically treated.

A more recent observational system to be devised was developed by Wayne E. Roberson (34). It is called the "Roberson Method" and was primarily designed to be used by teachers who wish to analyze their teaching behaviors which have been recorded on video tape. Roberson's intent was to provide teachers with an analytic tool, to be used by them in analyzing videotaped records of their classroom behavior. This instrument gives particular attention to the teachers

desired outcomes and was closely tied to the objectives of the class. It also included non-verbal as well as verbal behavior categories.

Research Related to the Use of Interaction Analysis
with In-Service Education of Teachers

Flanders' System of Interaction Analysis has been used more than any other observational tool in analyzing teacher verbal behavior in the classroom. One of the earliest attempts to incorporate interaction analysis into the training and supervision of teachers in in-service education was by Flanders (17) in 1962. The fifty-five teachers involved in this nine-week in-service program did show some changes in their patterns of spontaneous verbal behavior. From this study Flanders emphasized the need to be cautious about showing teachers their own matrices until they have been taught to use and interpret the matrix. He suggested the following assumptions which are basic to the use of interaction analysis in working with teachers:

1. Only a teacher can change his own behavior.
No one can change it for him.
2. Changes in teaching method are personal; they involve feelings and attitudes as well as new knowledge.
3. No one pattern of teaching can be adopted universally by all teachers.
4. The most effective environment for change provides the freedom to express both feelings and ideas, encourages self direction, and is free of coercion (17, p. 16).

A two-year in-service program by Amidon, Kies, and Palisi (2) also adapted interaction analysis to the training and

supervision of teachers. This was a program for twenty-two elementary teachers, the principal, and seven part-time specialists. The objective of this in-service program was to enable the participants to interpret their own matrices. The main contribution of this study is what the authors recommend about how to use feedback based on the use of interaction analysis. The following ground rules were used when feedback from interaction analysis was used:

1. The person giving feedback describes, rather than evaluates the pattern of teaching. He attempts to give as objective a description as possible of what he heard happening, and he avoids saying that it was good or bad.
2. Feedback is offered only in areas that are perceived as susceptible to change by the recipient;
3. Feedback is given only upon request of the person whose teaching is being discussed;
4. Feedback is concerned with those aspects of teacher behavior that are characteristic of the teacher at the time that discussion is taking place, rather than with aspects of behavior that are characteristic of an earlier time;
5. Feedback does not require a teacher to defend his personal opinion or feelings about the way in which he is teaching;
6. Feedback is concerned with specific teaching acts; not with generalized interpretations. It can be concerned legitimately with the manner of questioning used, manner of responding to students, pace, or some other pattern of communication (2, pp. 56-57).

Snider (39) in an attempt to define a teaching style that was peculiar to physics, found that teaching styles do exist and that they were consistent in their respective subjects. He compared teaching styles in physics with those

of social studies and mathematics and concluded that differences exist between teaching styles in subject areas.

In comparing teachers who were nominated as average or superior by their supervisors, Amidon and Giammatteo (1) found that superior teachers talked less and used more indirect influence.

Soar (40) conducted a study of teachers' in-service and his findings were similar to Amidon and Giammatteo (1). He also found that indirect teacher behaviors were related to high achievement in reading for elementary school children.

Volunteer teachers participated in a ten-week, in-service education program conducted by Storlie (41). He was investigating the relationship between selected characteristics of secondary teachers and change in verbal behavior. Subjects were observed before and after the training program in which half of the teachers were taught in a direct manner and the other half were taught in an indirect manner. 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.

Hill's in-service education program of instruction in interaction analysis (20) was conducted for three elementary and two secondary schools. 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: (1) tabulating

tape recordings of his own teaching, or (2) 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 on the mode of feedback from teaching.

Working with thirty-two elementary school teachers, Bond (11) found that training in interaction analysis is effective in changing teachers' verbal behavior in the direction of indirectness. This causes them to become aware of the kinds of statements they make, the effect certain statements have on students which motivates them to become more accepting of feelings, awareness of the effects of praise, and willingness to accept and use ideas of students. She also found that teachers who have studied interaction analysis can make desired verbal changes in their own behavior and consequently change the entire classroom climate.

Research Related to the Use of Interpersonal Scales in Teaching and Related Fields

The teacher does develop some kind of relationship with his students. This relationship is important to the effect the teacher has upon the students' achievement. The following group of studies show how interpersonal relations between teacher and student affects the learning atmosphere.

Sapolsky (38) studied the effects of a compatible relationship compared to an incompatible relationship between experimenter and subject measuring response acquisition or learning. This was done in two separate experiments. The first study used thirty female college freshmen representing a homogeneous group of education majors just graduated from high school and living as a group on campus. This experiment varied the attractiveness and unattractiveness of the experimenter. The second study used the FIRO-B to select thirty suitable subjects from over 300 girls. Here they were divided into two groups, compatible with experimenter and incompatible with experimenter. It was found that when the experimenter had an incompatible relationship with the subject, there was virtually no response acquisition or learning; however, when the relationship was compatible, there was significant response acquisition.

Truax and Tatum (44) working at the pre-school level reported a study attempting to relate the level of empathy, warmth, and genuineness communicated to the pre-school child by his teachers to his pre-school performance and social adjustment. The findings indicated that the degree of warmth and the degree of empathy was significantly related to positive changes in the child's pre-school performance and social adjustment. There was no relationship found with the teacher's genuineness. The researchers used both time sampling procedures (with observers making ratings) and

relationship inventories as basic measures of these "effective ingredients." Therefore, even in the very brief encounters of the pre-school teacher-child relationships (interactions last less than one minute) the findings indicated significant positive effects of warmth and empathy.

The relationship between school learning achievement and degree of teacher warmth was investigated by Christensen (13). This study indicated significant relationships between the teacher's warmth and the student's levels of learning or achievement on measures of vocabulary and arithmetic.

Hawkes and Egbert (19) used eighty teaching fellows of Educational Psychology at Iowa State University and Utah State University to relate empathy to students' ratings of teacher competence. Using Dymond's Rating Test for measuring empathic ability and Egbert's Study of Choices, Form VII they found that empathy was a significant factor in students' ratings of teacher competence.

Again using teaching fellows, Isaacson, McKeachie, and Milholland (22) reported relationships between teacher's personality to student ratings.

Diskin (15) attempted to relate empathy to ability to maintain harmonious interpersonal relations in the classroom. The procedure involved pupils of sixteen student teachers rating themselves, their peers, and their student teachers on the Detached Observer Scale and the Participant Observer Scale. In turn each student teacher predicted for five pupils selected

at random how these pupils would rate themselves and how they would rate the student teacher. He found that student teachers who were high in individual empathy were best able to maintain harmonious interpersonal relations in the classroom.

Studying the relationship between the level of therapeutic conditions offered by teachers of third-grade reading classes and the consequent gains in children's reading achievement levels, Aspy (?) found that the teachers who were warm, empathic, and genuine were able to produce greater behavioral change in terms of reading achievement than those who were less warm, empathic, and genuine. This study included eight teachers and 120 students in a balanced design; half the students in each class had tested relatively high and half relatively low in IQ and the classes were half girls and half boys. His findings indicated that students receiving relatively high levels of accurate empathy, nonpossessive warmth and genuineness from their teacher in third-grade reading classes showed significantly greater gains in achievement (measured by the Stanford Reading Achievement Test) than students receiving relatively lower levels of these therapeutic conditions ($p < .01$).

In a joint study by Aspy and Hadlock (8) of gains in third to fifth grade reading achievement, findings agree with the previous findings. The students of teachers high in accurate empathy, nonpossessive warmth, and genuineness showed a reading achievement gain of 2.5 years during a five-month

period while pupils taught by low condition teachers gained only 0.7 years. In addition, the truancy rate in classes with low conditions was much higher than that occurring in high-conditions classrooms.

Summing up what these findings suggest to education is best expressed by what Truax said,

. . . the person (whether a counselor, therapist or teacher) who is better able to communicate warmth, genuineness, and accurate empathy is more effective in interpersonal relationships no matter what the goal of the interaction (43, pp. 116-117).

Communication Theory and Its Relation to the Study

Communication is of utmost importance in the classroom. For this reason, communication theory was discussed, to a limited extent, in this chapter.

According to Ruesch and Prestwood (37) the social situation is a context of communication. Therefore, they contend that when two persons A and B, enter into each other's perceptual range, they begin to exert an influence upon each other. Individual A's universe is modified when he notes that his actions are perceived by individual B. Individual B's universe is modified when he notes that A's action is modified by A's awareness of his (B's) perception.

Every participant in a social interaction context must possess some system of codification or interpretation; otherwise, communication and understanding would be impossible. The process of codification has been called "consensual

validation" (25). It was defined as a process through which some degree of agreement is established between individuals which permits fairly exact communication and the drawing of generally useful inferences about the action and thought of the other (25, 42).

The language used by the student and teacher becomes significant symbols when both react in the same way to the words used (28).

Newcomb (33) contended that such is the whole function of language. Communication, according to Newcomb, "Performs the essential function of enabling two or more individuals to maintain simultaneous orientation toward one another, as communicators and toward objects of communication" (33, p. 393).

Assessment of the individual frame of reference of the individual is preliminary to successful communication (28, 33). The next step is the establishment of a congruency between the communicator and the receiver(s).

Congruence is a term used to indicate an accurate matching of awareness between individuals. Rogers (35) used the concept of congruence of communication to formulate the following generalized principle or theory of interpersonal relationships:

The greater the congruence of experience, awareness and communication on the part of the one individual, the more the ensuing relationship will involve: a tendency toward reciprocal communication with a quality of increasing congruence; a tendency toward more mutually accurate understanding of communications; improved psychological

adjustment and functioning in both parties;
mutual satisfaction in the relationship

Conversely, the greater the communicated incongruence of experience and awareness, the more the ensuing relationship will involve; further communication with the same quality; disintegration of accurate understanding, less adequate psychological adjustment and functioning in both parties; and mutual dissatisfaction in the relationship (35, pp. 344-345).

According to Jenkins (24) it is especially important in the classroom group that the teacher understands how his students decode his communications. He said,

It makes little difference what the teacher's intentions are and how good the methods are that he uses; if he fails to see what meaning his behavior has for the students, he will not be able to understand their reactions to him (24, p. 170).

Chowdhry, Gibbs, and McDonald (12) also emphasized that the teacher should know what effects his communication has on his students. They say that in the communicative process, once underway, becomes necessary that the encoder, or person transmitting the message, be interested in and aware of the effects that the message has upon the receivers.

Awareness by the communicator, Jenkins (24) says, is necessary for effective communication. In contrast to this, ". . . people who engage in unsuccessful communication are those who tend to send, or broadcast only, without regard for reception and audience" (24, p. 413).

The findings of Davidson and Lang (14) show how important the interdependent relationship is between a teacher and his students. They maintained that a teacher's feelings and attitudes are communicated both verbally and non-verbally.

the student and can be perceived as positive and accepting, or as negative and deprecating appraisals. More than likely, these appraisals encourage and stimulate the student to respond in a like manner. A positive relationship obviously reinforces each participant. One of the implied results of the Davidson and Lang study was that teachers communicate different feelings toward students; their behaviors are perceived in different ways.

Teachers seem to vary in their inclination and/or their capacity to communicate favorable feelings. It seems urgent that teachers be helped to recognize the significance of the feelings which they express toward children, consciously or unconsciously (43, p. 114).

Relationship of the Reported Research to the Study

Interaction in the classroom has concerned many people in the field of education since early in this century (31, 10, 4, 26). Specifically, researchers have been trying to find out just what really happens between teacher and pupil (4, 5, 6, 7, 26, 29, 31). Some have called the teacher's behavior dominative or integrative (4, 5, 6, 7), others have called it direct or indirect behavior (16, 17), and there are those who have classified this behavior as demonstrations of empathy, genuineness, and nonpossessive warmth (44, 19, 22, 43). Communication theorists categorized this relationship as a mere awareness of another's presence (28, 33, 35, 37, 42).

This study combined the techniques of several of the theories presented. Using the instruments and theories constructed by Flanders (16, 17) and Truax (43), an attempt was made to secure additional information which might lead to a clearer understanding of the teacher-pupil relationship. This additional information possibly could be used in teacher education.

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CHAPTER III

METHODS AND PROCEDURES

The purpose of this chapter was to describe the methods employed in the execution of the study and the manner in which the population was selected. The entire procedure of the investigation of the problem is also described in this chapter.

Selection and Description of the Groups

Permission to conduct the study using teachers from the Dallas Public Schools was obtained from the Research Committee of the Dallas Independent School District. (See Appendix I.) There were thirty-two senior high school teachers from two high schools involved in the study.

The study was conducted in conjunction with the Staff-Development Program of the Dallas Independent Public School District during the spring semester of the academic year 1969-1970. Prior to the spring semester the teachers were given a choice as to what kind of staff development they wanted. Training in interaction analysis was included in the list of choices. Each school desiring interaction analysis training was given a trained person to instruct them.

The thirty-two teachers were volunteers from W. T. White High School and Hillcrest High School. These two high schools

were selected for the study because of their proximity to one another which contributed to their similar socio-economic backgrounds. The sixteen teachers from W. T. White High School who selected interaction analysis as their staff-development program were the experimental group. Hillcrest High School's sixteen teachers served as the control group.

The two groups were made up of five teaching areas as revealed in Table I.

TABLE I
TEACHING AREAS AND NUMBER OF TEACHERS
IN EACH AREA

Teaching Areas	English	Social Studies	Science	French	Speech
Experimental Group	7	5	3	1	0
Control Group	8	2	5	0	1
Total Number Teachers	15	7	8	1	1

The two groups were fairly well balanced. The total number of teachers was thirty-two. The experimental group had one less teacher in English. Where the experimental group had five social studies teachers and three science teachers, the control group had two teachers in social studies and five in science. The experimental group had one French teacher, while the control had one in speech.

The control group's staff development was in the area of departmental self-evaluation. This staff development activity was related to each department's area of specialization. None of the control group participated in training in interaction analysis.

Description of Instruments

Truax Relationship Questionnaire.--The Relationship Questionnaire was developed by Charles B. Truax and his associates as a device for measuring a person's perception of the interpersonal qualities of accurate empathy, genuineness and nonpossessive warmth. This perception is of another person, usually someone in a leadership position such as a teacher or psychologist. Most of the research done with the questionnaire has been done in the area of psychotherapy (3, 5, 6, 7). Truax, Wargo, Carkhuff, Tunnell, and Glenn (6) found that the level of perceived therapeutic relationship was directly related to improvement of the patient when working with a population of eighty male and female juvenile delinquents. In another study of fifty-two outpatients receiving time-limited group psychotherapy, who had completed the relationship questionnaire, Truax, Wargo, Tunnell, and Glenn (7) found similar results.

Glenn (3) used the questionnaire in a correlational study while working with vocational rehabilitation clients and their perceived levels of interpersonal relationships with

their teachers. His findings indicated that the student's perception of the interpersonal qualities of his teacher was directly related to the improvement of the student. Hence, the greater the improvement of the student, the higher the level of empathy, genuineness, and warmth from the teacher.

Flanders' System of Interaction Analysis.--Interaction analysis (2) is an objective observational technique useful in classifying the verbal interaction between teachers and pupils. Within the system are ten categories which are to be memorized for the purpose of rapid categorization during an observation. The categories (See Appendix A) are as follows: (1) accepts feeling, (2) praises or encourages, (3) accepts or uses ideas of student, (4) asks questions, (5) lectures, (6) gives directions, (7) criticizes or justifies authority, (8) student-talk response, (9) student talk initiation, and (10) silence or confusion. The ten categories are divided into two major divisions: teacher talk which includes categories 1 through 7 and student talk which includes categories 8 and 9. The final category number 10 simply refers to silence or confusion in the classroom. The seven categories of teacher talk are further divided into two areas of either direct or indirect influence. Indirect influence are categories 1 through 4 and direct influence are categories 5 through 7.

Flanders (2) recommended that to become adequately trained as an observer, the observer memorize the categories

and practice categorizing with audio tapes for a minimum period of six hours prior to observing in live classrooms. The observer records a category number every three seconds and that tally corresponds to a category which represents that period of interaction in the class.

The observer then tabulates the data in a (10 x 10) matrix (See Appendix J), one pair of tallies at a time, using the first number to locate the row and the second to locate the column (2, pp. 26-27). Instructions for proper transfer from the tally sheets to the matrix are included in Flanders and Amidon's The Role of the Teacher in the Classroom (2). This information was utilized as a part of the training sessions for the experimental group.

Description of the Study

The thirty-two teachers who volunteered to participate in this study were required to administer a pre-test of the Relationship Questionnaire to a representative sample of their students. This group of students was selected by each teacher drawing a number which represented the class that was to fill out the questionnaire. This method was used to insure random selection of classes. This pre-test was administered during the first week of February, just prior to the beginning of the staff-development program.

The teachers involved in the study administered the test to the selected class. Instructions as to administration of

the questionnaire were given to each group of teachers the day before the test was to be given. (See Appendix F and G.) In addition to the printed instructions, it was emphasized that the teachers were not to read the questionnaire booklets or the students' responses on the answer sheet and the students were not to sign their names on the answer sheet. These instructions were stressed so that the students would be encouraged to be honest in their replies. The answer sheets were coded so that the students would not have to sign their name and also to insure matching pre-test with post-test answer sheets for statistical comparison.

Enough questionnaires and answer sheets for each teacher were placed in a sealed envelope and placed in the main office of the school for safe keeping by the principal until administering of the tests. The teachers were instructed to pick up their envelope just prior to the testing period and to return the envelope sealed just after the testing period. The teachers were further instructed to make sure that they had the exact number of questionnaires after the test as they did before.

After the pre-test, the experimental group underwent twelve hours of training in the use and interpretation of Flanders' System of Interaction Analysis. They were afforded released time of an hour and a half, from 2:30 p.m. until 4:00 p.m., for eight sessions, which was a total of twelve

hours. The sessions were held on approximately every other Wednesday afternoon throughout the semester.

At the same time the experimental group was receiving training in interaction analysis, the control group was involved with a self-evaluation program. This self-evaluation at Hillcrest High School was carried on through each department of the school. Each department did not have the same activities, but the activities included speakers, teaching demonstrations, book reviews, and other activities that were peculiar to their area of specialization.

Both groups administered post-tests to the same students during the third week of May. This was after they had completed their training in the use and interpretation of interaction analysis and self-evaluation. The same procedures that were used for the administration of the pre-test were used for the post-test.

Description of Instruction in the Use of Interaction Analysis

During the twelve hours of training in interaction analysis the teachers in the experimental group were introduced to the Flanders' System of Interaction Analysis and its use in the classroom for categorizing and analyzing their own verbal behavior. To facilitate the training, Interaction Analysis Training Kit--Level I (1) was used. This included a training audio tape and tape manual. Eight sessions of an hour and a half each composed the training program which

provided this instruction. (See Appendix C.) The basic text for the training sessions was the training manual, The Role of the Teacher in the Classroom, by Amidon and Flanders (2).

Procedures for Treating Data

The pre-test and post-test questionnaires for each teacher were collected and matched so that there was no one included that had missed one of the testing periods. The questionnaires along with a key for each of the three variables of accurate empathy, genuineness, and nonpossessive warmth were taken to the North Texas State Computer facility for scoring. There were a total of 1382 questionnaires that were graded three separate times for each variable by the IBM 1230 computer. From these questionnaires, pre-test and post-test, individual and group means were gathered for statistical treatment.

The North Texas Computer facility treated the data through the statistical treatment of analysis of covariance with the pre-test being the covariant. The analysis of covariance was used because it is a blending of regression and the analysis of variance, which permits statistical rather than experimental control of variables. The result is equivalent to matching the various experimental groups with respect to the variable or variables being controlled (4). Graphic representations and analysis of the statistics are included in Chapter IV.

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CHAPTER IV

STATISTICAL TREATMENT AND ANALYSIS OF THE DATA

Statistical Treatment

The statistical computations necessary to test the hypotheses in this study were performed by the IBM Computer Center at North Texas State University.

The .05 level of confidence was set as a minimum for significance with the .01 level of confidence considered highly significant.

Hypothesis number one stated that teachers who have participated in a training program in Flanders' System of Interaction Analysis will not differ significantly on accurate empathy as measured by the relationship questionnaire when compared with teachers who have not had this training.

In order to test this hypothesis, group means on the variable accurate empathy had to be gathered from the pre- and post-test. Also, to adjust for beginning differences and not being able to match the groups, an adjusted mean was computed. The pre- and post-test group means and the adjusted mean for the experimental and control group are revealed in Table II.

TABLE II

PRE-TEST, POST-TEST AND ADJUSTED MEANS FOR THE
EXPERIMENTAL AND CONTROL GROUP ON THE
VARIABLE OF ACCURATE EMPATHY

Source	Pre-Test	Post-Test	Adjusted
Experimental	23.63	24.59	23.94
Control	21.87	21.99	22.64

The experimental group pre-test mean was 23.63 and the post-test mean increased to 24.59. The control group pre-test mean was 21.87 with the post-test mean increasing slightly to a mean of 21.99. The adjusted means obtained by analysis of covariance for the experimental and control groups for the pre-and post-test scores were 23.94 and 22.64 respectively. It was the adjusted mean scores upon which the final analysis was based. Statistical inferences were drawn with respect to adjusted group means.

Summary of the statistical analysis of the variable accurate empathy is revealed in Table III.

The between sum of squares was 12.67 with 1 degree of freedom which gave a mean-square of 12.67. The within sum of squares was 172.49 with 29 degrees of freedom which yielded a mean-square of 5.95. In the comparison of pre- to post-test mean gain differences for the experimental and control group an F ratio of 4.19 was required for significance using one and 29 degrees of freedom.

TABLE III
ANALYSIS OF COVARIANCE FOR THE VARIABLE
OF ACCURATE EMPATHY

Source	SS	DF	MS	F
Between	12.68	1	12.67	2.13*
Within	172.50	29	5.95	. . .
Total	185.17	30

*No significant difference.

The null hypothesis of no difference among treatments after adjusting with covariates was retained because the .05 level of confidence, which was established as criterion for rejection, was not reached.

Hypothesis number two stated that teachers who have participated in a training program in Flanders' System of Interaction Analysis will not differ significantly on non-possessive warmth as measured by the Relationship Questionnaire when compared with teachers who have not had this training.

In order to test this hypothesis, group means on the variable nonpossessive warmth had to be gathered from the pre- and post-test. Also, to adjust for beginning differences and not being able to match the groups an adjusted mean was computed. The pre- and post-test group means and the adjusted mean for the experimental and control group are revealed in Table IV.

TABLE IV

PRE-TEST, POST-TEST AND ADJUSTED MEANS FOR THE
EXPERIMENTAL AND CONTROL GROUP ON THE
VARIABLE OF NONPOSSESSIVE WARMTH

Source	Pre-Test	Post-Test	Adjusted
Experimental	40.53	41.20	40.74
Control	39.36	38.40	38.86

The experimental group pre-test mean was 40.53 and the post-test mean increased to 41.20. The control pre-test mean was 39.36 while the post-test mean decreased to 38.40. The adjusted means obtained by analysis of covariance for the experimental and control groups for the pre- and post-test scores were 40.74 and 38.86 respectively.

A summary of the statistical analysis of the variable nonpossessive warmth is revealed in Table V.

TABLE V

ANALYSIS OF COVARIANCE FOR THE VARIABLE
OF NONPOSSESSIVE WARMTH

Source	SS	DF	MS	F
Between	28.12	1	28.12	2.15*
Within	379.61	29	13.09	. . .
Total	407.73	30

*No significant difference.

The between the sum of squares was 28.12 with 1 degree of freedom which gave a mean-square of 28.12. The within sum of squares was 379.61 with 29 degrees of freedom which yielded a mean-square of 13.09. In the comparison of pre- to post-test mean gain differences for the experimental and control group an F ratio of 4.19 is required for significance using 1 and 29 degrees of freedom.

The null hypothesis of no difference among treatments after adjusting with covariates was retained because the .05 level of confidence, which was established as criterion for rejection, was not reached.

Hypothesis number three stated that teachers who have participated in a training program in Flanders' System of Interaction Analysis will not differ significantly on genuineness as measured by the Relationship Questionnaire when compared with teachers who have not had this training.

In order to test this hypothesis group means on the variable genuineness had to be gathered from the pre- and post-test. Also, to adjust for beginning differences and not being able to match the groups an adjusted mean was computed. The pre- and post-test group means and the adjusted mean for the experimental and control group are revealed in Table VI.

The experimental pre-test mean was 35.68 and the post-test mean increased to 36.08. The control pre-test mean was 35.27 while the post-test mean decreased to 34.36. The adjusted means obtained by analysis of covariance for the

experimental and control groups for the pre- and post-test scores were 35.92 and 34.52 respectively.

TABLE VI
PRE-TEST, POST-TEST AND ADJUSTED MEANS FOR THE
EXPERIMENTAL AND CONTROL GROUP ON THE
VARIABLE OF GENUINENESS

Source	Pre-Test	Post-Test	Adjusted
Experimental	35.68	36.07	35.92
Control	35.27	34.31	34.52

A summary of the statistical analysis of the variable genuineness is revealed in Table VII.

TABLE VII
ANALYSIS OF COVARIANCE FOR THE VARIABLE
OF GENUINENESS

Source	SS	DF	MS	F
Between	15.74	1	15.74	2.07*
Within	220.71	29	7.61	. . .
Total	236.45	30

*No significant difference.

The between the sum of squares was 15.74 with 1 degree of freedom which gave a mean-square of 15.74. The within sum of squares was 220.71 with 29 degrees of freedom which yielded a mean-square of 7.61. In the comparison of pre- to post-test

mean gain differences for the experimental and control group an F ratio of 4.19 was required for significance, using 1 and 29 degrees of freedom.

The null hypothesis of no difference among treatments after adjusting with covariates was retained because the .05 level of confidence, which was established as criterion for rejection, was not reached.

Analysis of the Data

These data indicate that the experimental group did not differ from the control group to any significant degree on the three variables of accurate empathy, genuineness and non-possessive warmth. However, it should be pointed out that there were some factors that could have had a negative effect on the outcomes. Control of these variables possibly could have contributed to a more positive effect.

The teachers in the study represent five different subject areas. Each of these areas may have had distinguishing characteristics or peculiarities that influenced the outcomes. Different teaching fields probably affected the teachers' perceptions of interaction analysis to varying degrees. The fact that some subjects lend themselves to more direct and others to more indirect verbal behavior could have influenced the opportunity for interaction analysis to initiate any change in the teachers' behavior.

This study included only sixteen teachers in each group, which demanded a very high F ratio for a significant difference

to be attained. Providing for larger numbers of teachers in the study may have influenced the findings particularly since the statistics were in the direction of the predictions.

The time of the study, from February until May, was an influencing factor in the students' perception of their teacher. First of all, the students had already been in the teacher's class for five months which possibly contributed to a preconceived perception that was not overcome by the training in interaction analysis. Having the training in the fall, at the beginning of the year, so the students' perception of the teacher is still flexible, perhaps, would contribute to different outcomes. Moreover, the students were probably more weary of school in the spring than they would have been in the fall which could have influenced their perception of their teachers.

The study did not include any check for possible change in verbal behavior as a result of interaction analysis training; therefore, there was no way of knowing if the teachers did indeed change their verbal behavior. If they did change, such a change may not have been extensive enough for the pupils to perceive. Without this check, there was no way of knowing if the teachers' knowledge of interaction analysis resulted in verbal behavior change. The use of trained observers could have helped the teachers to be more conscious of their verbal interaction and given them more

reason for using the technique of interaction analysis in their teaching.

Finally, the post-test might have come too soon after the training sessions. The lack of time possibly resulted in teachers failing to integrate knowledge of interaction analysis in their classes. Consequently, the students may not have been able to detect any change of behavior on the part of the teacher.

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CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This chapter presents a summary of the investigation, a discussion of the findings, the conclusions, and recommendations for further research.

Summary

The study involved investigation of the effects of training in interaction analysis on the interpersonal behavior of classroom teachers. The purpose of the study was to determine if training in interaction analysis would have any effect on three interpersonal behaviors of accurate empathy, genuineness, and nonpossessive warmth. Also, the purpose was to analyze the relationship between interaction analysis and the interpersonal behavior of the classroom teacher in view of its implications in teacher education.

An experimental design was used in the study. An experimental group was used and a control group was introduced to explicate and measure differences in group comparisons due to introduced variables. It was hypothesized that the experimental group would show a significant mean increase on the three behaviors of accurate empathy, genuineness and nonpossessive warmth.

The two groups studied consisted of thirty-two high school teachers from the Dallas Independent School District. They were divided into two groups, sixteen teachers from Warren Travis White High School and sixteen from Hillcrest High School. The teachers were from the areas of English, social studies, science, French, and speech.

The teachers were administered the Truax Relationship Questionnaire a week before the beginning of the training in interaction analysis. The post-test was administered a week after the training. The class filling out the questionnaire on the teacher was picked randomly.

Individual teacher means and group means on the three variables were ascertained from the data which compared the pre-test with the post-test. From these data an analysis of covariance was run to determine if there was a significant group mean increase. An F ratio of 4.19 was needed to reach the .05 level of significance. This level was not reached on any of the three variables therefore, the research hypotheses were not supported.

Findings

Hypothesis number one stated that teachers who have participated in a training program in Flanders' System of Interaction Analysis would demonstrate a statistically significant mean increase on accurate empathy as measured by the Truax Relationship Questionnaire when compared with

teachers who have not had this training. The findings indicated that the two groups did not differ significantly therefore, the research hypothesis was not supported.

Hypothesis number two stated that teachers who have participated in a training program in Flanders' System of Interaction Analysis would demonstrate a statistically significant mean increase on nonpossessive warmth as measured by the Truax Relationship Questionnaire when compared with teachers who have not had this training. The findings indicated that the two groups did not differ significantly therefore, the research hypothesis was not supported.

Hypothesis number three stated that teachers who have participated in a training program in Flanders' System of Interaction Analysis would demonstrate a statistically significant mean increase on genuineness (self-congruence) as measured by the Truax Relationship Questionnaire when compared with teachers who have not had this training. The findings indicate that the two groups did not differ significantly therefore, the research hypothesis was not supported.

Conclusions

In relation to the purposes of this study and within the limitations established, the following conclusions appear to be valid:

1. Results of this research indicate that teachers receiving training in interaction analysis do not differ from

teachers who do not receive this training on the three interpersonal behaviors of accurate empathy, nonpossessive warmth, and genuineness.

2. Results of this research indicate that perhaps interaction analysis should be used when the purpose is to measure teachers' verbal behavior change rather than measuring change in empathy, warmth, and genuineness.

Implications

As a result of this study the following implications were drawn:

1. The brief amount of time in the training sessions and the time of year the study was conducted had an influence on the results.

2. The time irregularity between the training sessions and the lengthiness of the period from the beginning to the end could have had some negative effect upon the results of the study.

3. A more standard testing procedure administered by one or not more than two persons probably could have added more formality to the testing procedure. This standardization possibly could have given more positive results to the study.

4. Perhaps use of interaction analysis alone is not enough to alter teachers' interpersonal behavior.

5. Possibly using interaction analysis coupled with Truax's scale training techniques may produce more positive results.

Recommendations

As a result of this study, the following recommendations were made:

1. A replication of this study should be carried out coupled with audio tapes of classroom interaction rated with Truax's Interpersonal Scales.

2. A similar study could be conducted on a larger scale so that the researcher would not have to rely upon volunteers. Moreover, it is recommended to conduct this study using a larger group of teachers.

3. An attempt to use Flanders' System of Interaction Analysis along with the training of Truax's Interpersonal Scales should be carried out with a group of teachers to ascertain its effect.

4. Further studies including pre- and post-test observation of interaction analysis should be made. Such a study would help determine the extent of verbal behavior change.

5. A similar study needs to be conducted using teachers from the same subject area.

6. A similar study could be carried on during the fall of the year. This study should begin soon after school begins and end before the holidays in December.

APPENDIX A

SUMMARY OF CATEGORIES FOR INTERACTION ANALYSIS

TEACHER TALK	INDIRECT INFLUENCE	<ol style="list-style-type: none"> 1. *ACCEPTS FEELING: accepts and clarifies the tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included. 2. *PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "uh huh" or "go on" included. 3. *ACCEPTS OR USES IDEAS OF STUDENT: clarifying, building, or developing ideas or suggestions by a student. As teacher brings more of his own ideas into play, shift to category five. 4. *ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.
	DIRECT INFLUENCE	<ol style="list-style-type: none"> 5. *LECTURES: giving facts of opinions about content or procedures; expressing his own idea; asking rhetorical question. 6. *GIVES DIRECTIONS: directions, commands, or orders with which a student is expected to comply. 7. *CRITICIZES OR JUSTIFIES AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing, what he is doing, extreme self-reference.
STUDENT TALK		<ol style="list-style-type: none"> 8. *STUDENT TALK-RESPONSE: talk by students in response to teacher's questions in which predetermined responses are expected. 9. *STUDENT TALK-INITIATION: talk by students, which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category. In addition, student's response to open-ended question such as "What is your opinion? What do you suggest?, etc. would go in this category.
		<ol style="list-style-type: none"> 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 during observation is to enumerate--not to judge a position on a scale.

APPENDIX B

RELATIONSHIP QUESTIONNAIRE

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People feel differently about some people than they do about others. There are a number of statements below that describe a variety of ways that one person may feel about another person, or ways that one person may act towards another person. Consider each statement carefully and decide whether it is true or false when applied to your present relationship with your teacher. If the statement seems to mostly be true, then mark it true; while if it is mostly not true, then mark it false.

1. He seems to hold things back, rather than tell me what he really thinks.
2. He understands my words but does not know how I feel.
3. He understands me.
4. He understands exactly how I see things.
5. He is often disappointed in me.
6. He seems to like me no matter what I say to him.
7. He is impatient with me.
8. He may understand me but he does not know how I feel.
9. He often understands what I am trying to say.
10. He almost always seems very concerned about me.
11. Sometimes I feel that what he says to me is very different from the way he really feels.
12. He is a person you can really trust.
13. Sometimes he will argue with me just to prove he is right.
14. Sometimes he seems to be uncomfortable with me, but we go on and pay no attention to it.
15. Some things I say seem to upset him.
16. He can read me like a book.
17. He usually is not very interested in what I have to say.
18. He feels indifferent about me.
19. He acts too professional.
20. I am just another student to him.
21. I feel that I can trust him to be honest with me.
22. He ignores some of my feelings.
23. He likes to see me.
24. He knows more about me than I do about myself.
25. Sometimes he is so much "with me," in my feelings, that I am not at all distracted by his presence.
26. I can usually count on him to tell me what he really thinks or feels.

27. I feel that he is being genuine with me.
28. Even when I cannot say quite what I mean, he knows how I feel.
29. He usually helps me to know how I am feeling by putting my feelings into words for me.
30. He seems like a very cold person.
31. He must understand me, but I often think he is wrong.
32. I feel that he really thinks I am worthwhile.
33. Even if I were to criticize him, he would still like me.
34. He likes me better when I agree with him.
35. He seems to follow almost every feeling I have while I am with him.
36. He usually uses just the right words when he tries to understand how I am feeling.
37. He pretends that he likes me more than he really does.
38. Sometimes he seems to be putting up a professional front.
39. Sometimes he is so much "with me" that with only the slightest hint he is able to accurately sense some of my deepest feelings.
40. I feel safer with him than I do with almost any other person.
41. I often cannot understand what he is trying to tell me.
42. Sometimes he sort of "pulls back" and examines me.
43. Whatever he says usually fits right in with what I am feeling.
44. He sometimes seems more interested in what he himself says than in what I say.
45. He tells me things that he does not mean.
46. He often does not seem to be genuinely himself.
47. He is a very sincere person.
48. With him I feel more free to really be myself than with almost anyone else I know.
49. He sometimes pretends to understand me, when he really does not.
50. He usually knows exactly what I mean, sometimes even before I finish saying it.
51. He accepts me the way I am even though he wants me to be better.
52. He often leads me into talking about some of my deepest feelings.
53. He is curious about what makes me act like I do, but he is not really interested in me.
54. He sometimes completely understands me so that he knows what I am feeling even when I am hiding my feelings.
55. I sometimes feel safe enough with him to really say how I feel.
56. I feel I can trust him more than anyone else I know.
57. Whatever I talk about is okay with him.
58. He helps me know myself better by sometimes pointing to feelings within me that I had been unaware of.
59. He seems like a real person, instead of just a teacher.
60. I can learn a lot about myself from talking with him.

61. Sometimes he is upset when I see him but he tries to hide it.
62. He would never knowingly hurt me.
63. He is a phony.
64. He is the kind of person who might lie to me if he thought it would help me.
65. When he sees me he seems to be "just doing a job."
66. In spite of the bad things that he knows about me, he seems to still like me.
67. I sometimes get the feeling that for him the most important thing is that I should really like him.
68. There is something about the way he reacts to what I tell him that makes me unvertain whether he can keep my confidences to himself.
69. He gives me so much advice I sometimes think he's trying to live my life for me.
70. He never knows when to stop talking about something which is not very meaningful to me.
71. He sometimes cuts me off abruptly just when I am leading up to something very important to me.
72. He frequently acts so restless that I get the feeling he can hardly wait for the day to end.
73. There are lots of things I could tell him, but I am not sure how he would react to them, so I keep them to myself.
74. He constantly reminds me that we are friends though I have a feeling that he drags this into the conversation.
75. He sometimes tries to make a joke out of something I feel really upset about.
76. He is sometimes so rude I only accept it because he is supposed to be helping me.
77. Sometimes he seems to be playing "cat and mouse" with me.
78. He often points out what a lot of help he is giving me even though it doesn't feel like it to me.
79. It is hard to feel comfortable with him because he sometimes seems to be trying out some new theory on me.
80. He's got a job to do and does it. That's the only reason he doesn't tell me off.
81. If I had a chance to study under a different teacher I would.
82. He is always relaxed, I don't think anything could get him excited.
83. I don't think he had ever smiled.
84. He is always the same.
85. He makes me feel like a guinea pig or some kind of animal.
86. He uses the same words over and over again, till I'm bored.
87. Usually I can lie to him and he never knows the difference.
88. He may like me, but he doesn't like the things I talk about.
89. I don't think he really cares if I live or die.

90. He doesn't like me as a person, but continues to see me as a student anyway.
91. I think he is dumb.
92. He never says anything that makes him sound like a real person.
93. He is all right, but I really don't trust him.
94. If I make mistakes or miss a class, he really gives me trouble about it.
95. He probably laughs about the things that I have said to him.
96. I don't think he knows what is the matter with me.
97. He sometimes looks as worried as I feel.
98. He is really a cold fish.
99. There are times when I don't have to speak, he knows how I feel.
100. If I am happy or if I am sad, it makes no difference, he is always the same.
101. He knows what it feels like to be ill.
102. He must think he is God, the way he talks about things.
103. He must think that he is God, the way he treats me.
104. He interrupts me whenever I am talking about something that really means a lot to me.
105. I can tell by his expressions sometimes that he says things that he does not mean.
106. There are a lot of things that I would like to talk about, but he won't let me.
107. He really likes me and shows it.
108. I think he could like someone, but I don't think he could love anybody.
109. There are times when he is silent for long periods, and then says things that don't have much to do with what we have been talking about.
110. When he is wrong he doesn't try to hide it.
111. He acts like he knows it all.
112. If he had his way, he wouldn't walk across the street to see me.
113. Often he makes me feel stupid the way he uses strange or big words.
114. He must think life is easy the way he talks about my problems.
115. You can never tell how he feels about things.
116. He treats me like a person.
117. He seems to be bored by a good deal of what I talk about.
118. He will talk to me, but otherwise he seems pretty far away from me.
119. Even though he pays attention to me, he seems to be just another person to talk with, an outsider.
120. His concern about me is very obvious.

APPENDIX C

OUTLINE OF THE SESSIONS

Session I

1. Chapter I . . Introduction to the Study of the Teacher, Role.
2. Chapter II . . "Interaction Analysis as a Feedback System"
 - a. Will include a discussion of the separate categories.
 - b. Emphasis upon Directness vs. Indirectness.
 - c. Procedure for Categorizing Teacher-pupil interaction. p. 15.
 - d. Steps in the Observer Training Process.
3. Begin Recording numbers for Tempo check. (one tally per three seconds)
4. Record very easy and simple exercises from Session I on the tape.
Exercises #1, 2, 3 & 4.
5. Assignment for next session:
Study chapter two in more depth and complete memorization of the ten categories.
Work on ground rules.

Session II

1. Temp check (one tally per 3 seconds).
2. Review Exercises 1, 2, 3 & 4 from Session I on the training tape.
3. Review Chapter II -- "Interaction Analysis as a Feedback System"
 - (a) Specifically emphasize from p. 18.
 - (b) Go into detail with the ground rules p. 24.
4. Tally some from Session II on the training tape.
Select from the 12 exercises.

Session II . . Con't.

5. Begin work on Chapter III -- "Using and Interpreting Interaction Analysis"
 - (a) Recording Data in a Matrix -- p. 31.
 - (b) Using the Matrix to Determine Specific Areas of Classroom Interaction -- p. 38.
 - (c) Interpreting Matrix Data -- p. 45.
 - (d) Use exercise 4 from Session I to build a very simple matrix.
6. Assignment:

Study the Ground rules

Session III

1. Tempo check.
2. Review some of the earlier tapes and go to more advanced ones.

Session I -- Ex. #4
Session II -- Ex. #1-12
3. Review the building of a matrix in Chapter III. Go in more depth with the discussion.

Training tape . . . Session IV -- Ex. #1
4. Tally more difficult exercises and compare with the experts.

Training Tape . . . Session II -- Ex. #7-12
Session III -- Ex. 1-3
5. Break them into smaller groups and let them compare some of their recordings from the tapes and discuss any differences that they see.
6. Review the work on the ground rules.
7. Assignment:

Each group should select someone to bring a three to five minute tape from one of her classes. This same group will tally from this tape next time. (check to see that everyone knows how to run the tape recorder.)

Session IV

1. Quick tempo check. Record from some of the earlier tapes for practice and review.

Session II -- Ex. #11 & 12
Session III -- Ex. # 1 & 2

Session IV . . Con't.

2. Divide the group up into the groups they were assigned and have them tally the recoding and discuss them.
3. Have ten or fifteen minutes of some roll playing sessions with the categories. Let them volunteer to roll play the various categories and then hopefully the whole group will become spontaneous and want to join in.
4. Review the ground rules.
5. Training Tape . . . Session III
Exs. 5-8
Break them up into groups for discussion of the tallies.
6. Training Tape . . . Session IV
Ex. 3
7. Assignment:
Give each person a partner and have them observe and tally a live, five-minute session from each one's classroom. Bring back for next time.

Session V

1. Tally for review . . . Training Tape . . . Session III
Exs. 1-4
2. Discuss the partner observation that was done. Ask if there were any problems and see if there are any trouble spots.
3. Tally practice . . . Training Tape . . . Session III
Exs. 5-8
Session IV
Ex. 3
4. Do some more roll playing of the categories.
5. Get magazines with some good teachable topics. Assign groups with topics from magazines to teach. Let each group select one person to teach. Before the teaching begins have them discuss which category will be used the most. Let the group be the class.
6. Assignment:
Five minute taping of their own classroom. Tally and place in a matrix for next time.

Session V . . Con't.

Ask for a number of students to come and stimulate a class.

Have two or three teachers to prepare to teach. Everyone else will act as observers.

Session VI

1. Set up the stimulated class sessions and let those alerted to teach to proceed while others record. After the students leave, discuss the tallying and general flow of interactions.
2. Tempo check and review tallying.
Training Tape . . . Session III
Exs. 7 & 8
3. Divide into groups and have them discuss their own matrices from last time.
4. Begin discussion on Chapter IV.
5. Tally from Training Tape . . . Session IV
Exs. 3 & 4
6. Assignment:
Another five minute taping of their own classroom interaction. Tally and place in a matrix. Have two or three to bring tapes for next session.

Session VII

1. Discuss the tapes from their classes and the matrices.
2. Listen to the tapes that were brought in and have everyone to tally and place in a matrix.
3. More discussion of Chapter IV "Research on Teacher Behavior."
4. Review Tallying from the following:
 - Session II
Exs. 11 & 12
 - Session III
Exs. 7 & 8
 - Session IV
Ex. 4 with matrix

APPENDIX D

RELIABILITIES OF RATING SCALES FOR ACCURATE EMPATHY, NONPOSSESSIVE WARMTH, AND GENUINENESS FROM SPECIFIC STUDIES

Truax (1961)	384	8	7	Individual	.87	.50*	.40*
Truax & Carkhuff (1963)	297	14	10	Individual	.89	.50*	.40*
Truax & Carkhuff (1963)	112	28	24	Individual	.69	.55*	
Truax (1962)	448	14	10	Individual	.69*		
Bergin & Solomon (1963)	28	28	18	Individual	.79*		
Melloh (1964)	56	28	28	Individual	.62*		
Truax, Wargo, Frank, Imberg, Battle, Hoehn-Saric, Nash, & Stone (1966a)	182	40	4	Individual	.63	.59	.60
Truax, Carkhuff & Kodman (1965)	192	40	4	Group	.87	.91	.72
Truax & Wargo (1966a)	89	80	8	Group	.88	.77	.41
Wargo (1962)	297	14	10	Individual	.89	.50*	
Diekenson & Truax (1966)	72	48	1	Group	.83	.75	.25
Truax, Wargo & Silber (1966)	192	40	2	Group	.93	.81	.56
Truax & Carkhuff (1963)	64	8	8	Individual	.57	.62	.45*
Truax (1962e)	104	26	1	Individual	.69*	.55*	.40*
Truax, Wargo, Frank, Imberg, Battle, Hoehn-Saric, Nash & Stone (1966b)	80	40	2	Individual (screening interviews)	.75*	.57*	.55*
Therapy interviews	182		4	Therapy interviews	.63	.59	.60
Truax (1966b) (ed.)	50	5	5	Individual (ed.)	.66*	.84*	
(non-edited)	50			(non-edited)	.76*	.81*	
Truax (1966a) (TPT)	283	63		(TPT)	.84	.86	.81
(PTP)	305	65	8	Group (PTP)	.89	.85	.73
(TIME)	384	80		Group (TIME)	.92	.95	.95
Truax & Carkhuff (1965a)	45	3	1	Individual	.78	.70	.83
Truax & Carkhuff (1965)	151	70	28	Individual	.43*	.48*	.62*
Truax & Silber (1966)	144	48	16	Individual	.54	.52	.46
Truax & Silber & Carkhuff (1965)	342	80	5	Group	.50	.71	.48
Truax (1966)	161	30	4	Group	.59	.84	.85

*Average Pearson correlation all others are ebel intraclass reliabilities for the pooled data used in analysis of findings.

APPENDIX E

The following pearson-product correlation was used to compute the reliability of the Truax Relationship Questionnaire. The questionnaire was given to thirty-six freshman and sophomore education students in the fall of 1969. It was administered on a Wednesday and was administered a second time two weeks later.

The students were simply asked to fill out the questionnaire on their teacher and to be honest and frank as possible. Further, they were assured that this would have no effect on their grade or relationship with their teacher. These same instructions were given each time the questionnaire was administered.

The reliability correlation was .8257 or .83. At test of significance was run and was found to be significant beyond the .001 level.

$$\begin{aligned}
 r &= \frac{\sum xy - \frac{(\sum x)(\sum y)}{N}}{\sqrt{\left[\sum x^2 - \frac{(\sum x)^2}{N}\right] \left[\sum y^2 - \frac{(\sum y)^2}{N}\right]}} \\
 &= \frac{568,655 - \frac{(4453)(4531)}{36}}{\sqrt{\left[561023 - \frac{(4453)^2}{36}\right] \left[579923 - \frac{(4531)^2}{36}\right]}} \\
 &= \frac{8,195.48}{\sqrt{[10,211.64][9646.31]}} = \frac{8,195.48}{\sqrt{98504645.04}} \\
 t &= \sqrt{\frac{r}{\frac{1-r^2}{N-2}}} = \sqrt{\frac{.83}{\frac{1-.6889}{36-2}}} = \sqrt{\frac{.83}{\frac{.3111}{34}}} = \sqrt{\frac{.83}{.00915}} \\
 &= \frac{.83}{.0956} = 8.78
 \end{aligned}$$

APPENDIX F

INSTRUMENT USED IN THE STUDY

The Truax Relationship Questionnaire is a 120 T-F item inventory of the three interpersonal qualities of accurate empathy, genuineness, and nonpossessive warmth. In a clinical relationship it is filled out by the patient. In the teaching relationship the students fill it out. Therefore, it is an inventory of these qualities as perceived by the student.

This information will only be used by the researcher and no one will see the results of any individual teacher. The information will be used as a group and then in terms of a mean score only.

You are not being rated or evaluated. This information will be used only for research purposes.

APPENDIX G

INSTRUCTIONS FOR FILLING OUT TRUAX'S RELATIONSHIP QUESTIONNAIRE

Teachers

1. The class filling out the questionnaire will be selected by drawing a number and using that period to avoid hand-picking extremely good or bad classes.
2. The students filling out the questionnaire should have been in the teacher's class the previous semester. No new students and those not expected to complete through May should be included.
3. Teachers are not to read the questionnaires nor are they to read how the students have answered any of the items. This restriction is included so that the students will feel free to answer the items as honestly as possible.
4. Of the 120 T-F items on the questionnaire some will apply to the teacher-pupil relationship, others will not. Ask your students to answer honestly after carefully considering their present relationship with you.

IF THE STATEMENT SEEMS TO MOSTLY BE TRUE,
THEN MARK IT TRUE; WHILE IF IT IS MOSTLY
NOT TRUE, THEN MARK IT FALSE.

Students -- (This information will accompany the questionnaires and should be read before they begin work.)

1. Place your name in the appropriate space at the top of the answer sheet.
2. Only a number two (No. 2) lead pencil should be used. The questionnaires will be machine scored.
3. Blacken the choice completely. Avoid any extra pencil marks. Do not mark on the questionnaire. Mark only on the answer sheet.
4. If the statement seems to mostly be true, then mark it TRUE; while if it is mostly not true, then mark it FALSE.
5. Read the instructions at the top of the questionnaire very carefully before you begin work.

APPENDIX H

DESCRIPTION OF THE TRAINING SESSIONS USING INTERACTION ANALYSIS

Session I

Chapter I . . Introduction to the Study of the Teacher Role
Chapter II . . "Interaction Analysis as a Feedback System"
a. Discuss the separate categories
b. Directness vs. indirectness
c. Procedure for categorizing p. 15
d. Steps in the Observer Training Process

Record numbers for tempo check (one tally per three seconds)
Assignment: Study chapter two and complete memorization of
the ten categories.

Impressions of Session: Very good reception by the teachers.
Seemed to be quite interested.
Caught on quickly to recording tallies.

Session II

Tempo check (one tally per 3 seconds)
Discuss the ten categories and work on memorization
Discuss the ground rules
Begin recording from the tapes #1, 2, 3.
Assignment: Study the ground rules

Impression of Session: Not much preparation before the class.
Tempo check took longer than should've.
Quite a lot of discussion on being
able to discriminate between some
of the categories.
Ground rules helped a lot.

Session III

Continue work on Tempo (one tally per 3 seconds).
Discuss the recording from the tapes and continue work with
the tape: Session I: Ex. 4.
Session II: Ex. 1, 2, 3.
Begin work on Chapter III -- "Using and Interpreting Inter-
action Analysis" -- Show how tallies are transferred to
matrix.
Assignment: Study Matrix Building and Ground rules

Impression of Session: A little let down during this session. Still not much preparation before the class . . . having to do things that the teachers should do on their own.

Session IV

Tempo check

Review what was said about matrix building and go into more detail into Chapter III.

Training tape exercises: Session II: Ex. 5, 6, 7.
Session III: Ex. 1 (with matrix)
On exercise 7 . . . break them into small groups and let them discuss their tallies.

Discuss in more depth the purpose for the ground rules and their meaning.

Assignment: Place Ex. 7 in a matrix
Each group should select someone to bring a three to five minute tape from one of her classes. This same group will tally from this tape next time.

Impression of Session: Still much discussion centering around discrimination between categories. Some frustration seen about this. They are about to memorize the categories and feel more confident.

Session V

Tempo check

Break into groups they were assigned and have them tally the tape brought to class. Have them put it into a matrix.

Discuss Ex. 7 from last time in the matrix.

Review the ground rules

Demonstrate roll playing of the categories.

Training tape. Session II: No. 9, 10, 11.

Session III: No. 2.

Assignment: Study ground rules

Impression of Session: They enjoyed the small group work. They liked the roll playing demonstration.

Placing the tallies into a matrix lets them see the interaction better.

Session VI

Tempo check

Discuss interaction in the classroom and see if they feel that their work with interaction analysis has caused them to be more cognizant of their own verbal behavior.

Training tape: Session II: No. 8 & 12.

Session III: No. 2 & 3.

Assignment: Give each person a partner and have them observe and tally a live, five minute session from each one's classroom.

Impression of Session: They enjoyed the roll playing in the small groups.
Some did not observe like they were suppose to. Some just aren't putting anything into the sessions.
Still some frustration on a few of them concerning discrimination.

Session VII

Tempo check

Discuss their live observation sessions.

Talk to each couple alone about the observation they did on the other and compare it with the objectives of the teachers class.

Training Tape . . . Session III: No. 4.

Assignment: Five minute taping of their own classroom.
Tally and place in a matrix for next time.

Impression of Session: I got to know each one of the group better by talking with each one of them about their observation of their partner.
Most have learned as much as they will during this go round. Perhaps if they could study more later it would help them.

Session VIII

Summary Session

Discuss their taping to their own classroom.

Discuss and get some feedback on the staff developments as they see it.

Party!!!

Impression of Session: They all expressed how much they enjoyed the time spent together.

APPENDIX I

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DALLAS, TEXAS 75204

SCHOOL ADMINISTRATION BUILDING
3700 ROSS AVENUE
TELEPHONE 824-1620

February 10, 1970

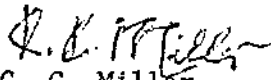
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Mr. Wordy Buckner
913 West Hickory
Denton, Texas

Dear Mr. Buckner:

The Research Committee has studied and approved your Research Proposal, "The Effects of Training in Interaction Analysis on Teachers' Interpersonal Behavior."

Sincerely yours,


C. C. Miller
Associate Superintendent -
Development

CCM:jw

APPENDIX J

INTERACTION ANALYSIS WORK MATRIX

	1	2	3	4	5	6	7	8	9	10	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											Matrix Total
TOTAL											
%											

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