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Analysis of teacher non-verbal behavior and student perceptions of that behavior in a high school typewriting classroom.

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ANALYSIS OF TEACHER NON-VERBAL BEHAVIOR AND STUDENT PERCEPTIONS OF THAT BEHAVIOR IN A HIGH SCHOOL TYPEWRITING CLASSROOM

A Dissertation Presented

By

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Analysis of Teacher Non-Verbal Behavior and Student Perceptions of that Behavior in a High School Typewriting Classroom (June 1974)

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The primary purpose of the study was to investigate student perception of three nonverbal teacher behaviors in a typewriting classroom. These behaviors consisted of two variations each of invasion, touching, and eye contact. Sixty-four students from a comprehensive high school were shown sixteen silent videotaped vignettes in which a female typewriting teacher enacted three nonverbal behaviors each with a male and a female student actor. Students observing the vignettes were asked to rate on a five-point Likert attitude scale how they would perceive the teacher helping them in each vignette.

Data were analyzed using repeated measures of analysis of variance design. Biomed 08V computer program was utilized to process the data. Findings may be summarized as follows:

1. Students did not perceive a significant difference between having the teacher sit in a chair next to them or sit in their chair. However, students' sex made a significant difference ($< .01$) in their attitudes about invasion,

with less hindrance by a female teacher's sitting in a female student's chair than in a male student's chair.

2. Students did not feel there was a difference in the teacher's helping them to learn by either touching or not touching their hand. However, when both invasion and touch were used by the teacher, students felt ($< .05$) they were being helped more than when touch and invasion were not used.

3. There was a significant difference ($< .05$) on student perception of eye contact--students preferred no eye contact as helping them to learn. Furthermore, when eye contact was combined with invasion, eye contact and no invasion combined were perceived as significantly (.001) more helpful to learning.

4. Males and females did not react at a significant difference to the sixteen vignettes, although males tended to be more positive in their average responses.

5. Subjects differed significantly ($< .001$) in their reactions to the sex of the student actor in the vignettes. When sex of student actor was combined with invasion, students' response was significant ($< .01$). Students perceived female invasion by female teacher more acceptable than to male student. Sex of student actor, eye contact, and touch combined were significant ($< .01$)

Follow-up interviews indicated students' ratings were corroborated by personal statements.

IMPLICATIONS

1. The method of using model videotape silent recordings would seem to hold promise for training teachers in appropriate nonverbal behaviors.

2. Teachers need to be instructed in the interaction effects of various combinations of nonverbal behaviors with male and female students.

3. Evidence suggests that better arrangement of classrooms is needed to improve learning environment and demonstration opportunities.

4. Further research is needed in validating the videotape method of studying teacher nonverbal behaviors, both in additional schools and in different geographical regions.

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CHAPTER I

INTRODUCTION

Those who teach communicate not only through verbal means (Dance, 1967) but also through nonverbal behaviors (Davis, 1971). Communications are the transmitting and receiving of messages, by sound, light, touch, and other means. In its broadest meaning, communication is meant to elicit a response (Dance, 1967) and so it is with teaching and learning--communication is the process of sending messages, receiving and responding to those messages.

We learn early about communication and so we take its many characteristics very much for granted. However, scholars of the human condition from a broad range of disciplines (Davis, 1971; Dance, 1967; Birdwhistell, 1970; Hall, 1967) have been attempting to precisely analyze the various components of communication (Janis, 1959). The study of communication has accelerated in this century but has been going on since the Greek philosophers, Plato and Aristotle.

Educators are concerned with communication because of their mandate (Kraft, 1971) to impart knowledge to students in the limited time available to them. They should use every means possible to assure the effective communication of attitudes or of subject matter. Meanwhile, our technical society has flourished, means of travel and communication have been improved through many media. Educators have a

number of visual and audio ways to communicate with their students. In addition, researchers have recently investigated how we communicate through nonverbal behaviors (Kelly, 1971). The behaviors vary somewhat from geographic area to geographic area, but nonverbal behavior is a viable, definable aspect of communication that has been seldom studied by educators.

The educator discovers from experience and from researchers that in his role as a teacher he communicates not only verbally but also nonverbally the subject content of his special interest area. Beyond using the strength of his personality characteristics (Ryans, 1960), he uses a variety of teaching methods (Dale, 1952; Gage, 1963; Miller and Dollard, 1941, 1953) to communicate with his students. Until the past fifteen years, (Dance, 1967; Davis, 1971) teaching procedures primarily were learned in the verbal mode. The nonverbal was essentially ignored or relegated to the old adage, "teaching is an art." To assess the importance of nonverbal communication is an important task of the educator interested in improving the procedures of teaching (West, 1969) and of treating "teaching as a science."

Regardless of the personality characteristics of the individual teacher, the procedures of teaching can be learned and can be improved upon. There have been many studies on the personality of the teacher and on the student-teacher verbal relationship, but there are few on nonverbal

teaching behaviors and student perception of those nonverbal teacher behaviors.

Since members of society learn through initation, the classroom teacher serves as a leader and one to be imitated in the formalized instruction of the young. The three dimensions of imitation may be described as "same behavior", "matched-dependent behavior," and "copying" (Miller and Dollard, 1941, 1953). "Same behavior" does not apply to this treatise. Matched-dependent mechanisms and copying are both viable for the teacher-model. The teacher-model can be found throughout society when the model is older, in a particular role, or more skilled. As in teacher education, the more skilled teacher trainer is for the young trainee a matched-dependent model. The young trainee is matching the behavior of the model but is still dependent upon his leadership.

In the second mechanism, copying, one person learns to model his behavior on that of another person. The copier must know when his behavior is the same as his model's and it is important that he have a critic to reward his correct and appropriate copying. Copying goes on at all ages of life. The critic may be another person or the copier himself may develop his own ability to reward and punish his correct and incorrect copying (Miller and Dollard, 1941).

The copying dimension, for example, is the basis for laboratory demonstrations by a model teacher or student. The

model demonstrates and the critic rewards correct following of the model. Classroom or laboratory demonstrations are not new to society nor to education and they are not unique to any one subject field or grade level (Dale, 1952; Miller and Dollard, 1941, 1953). The demonstration technique is appropriate in many settings, from how to wash test tubes, to teaching the Underwriters Knot to electricians, to demonstrating a new game to nine-year-old children at a birthday party. Demonstrating has many heirarchical levels. A simple heirarchy is shown by citing pre-school children having demonstrated to them the way to hold a pencil in a writing position and having demonstrated to them actual writing. Classroom demonstrations are a means for the teacher to serve as a model for the learner (Miller and Dollard, 1941, 1953).

The behaviors that teachers utilize in teaching are only partially a function of personality characteristics and are partially learned as techniques of teaching (Ryan, 1960; Nelson, 1969). These behaviors are "valued behaviors" (Oliverio, 1971) which the superior teacher utilizes along with a body of knowledge or skill.

Birdwhistell writes of human communication analysis as follows:

> Information theory has been of incalculable value in delineating fields for investigation for the student of communication analysis. It has been an efficient instrument for the location of communicational problems . . . its greatest utility has come from the fact that it serves to desentimentalize the message process. With such an outline of our universe of investigation, we are freed to tackle problems which had not been seen before.

> Moreover, information models provide excellent tools for the description of myths about unilateral transmission of knowledge . . . One of the reasons that inappropriately borrowed models such as these--and there are many which are more popular and far less descriptive--have come into usage as ways of describing human communication is that they stand the test of naive review. That is, such models "feel right" to us. (p.69)

The study of Kinesics has applicability for education and for this study in particular. Kinesics has been defined as the systematic study of patterned and learned aspects of body motion which can be demonstrated to have definite communicational value (Birdwhistell, 1971; Kelly, 1971). For education, Birdwhistell (1971) finds the investigation of human communication by means of linguistic and kinesic techniques most desirable and relevant. Visible body activity, like audible accoustic activity, systematically influences the behavior of other members of any particular group. Visible body activities include body acts, body positions, facial expressions, and head orientations. All these behaviors might be termed extra-linguistic and are potential contributors to the learning process in the classroom.

In a typewriting classroom, body position and hand position are important to the learning of typing skill. As in the teaching of the Electrician's Knot--a somewhat simple knot but with complex steps which all electricians must learn (Dale, 1952), the complexity of steps in typing is better explained through demonstration than from "telling" alone. The demonstration stand has long been used

to teach typewriting. It provides a means by which the teacher can serve as a model for the learner (Miller and Dollard 1941, 1953; West, 1969; Dale, 1952; Gage, 1963). West (1969) states:

> Some aspects of technique of machine operation can effectively be demonstrated by the teacher to the class. . . . Some demonstrations are to be seen . . . others are to be heard. The chief thing to bear in mind about visual demonstrations is that they are useless unless everyone can see exactly what you want him to see. Accordingly, you may have to repeat your demonstration from two or more different locations. . . . Still further, as very fine details are involved in your demonstration, you may have to forego front-of-the-room demonstrations and sit in turn at various student typewriters while small groups of students watch. (p. 135)

The demonstration for typewriting hand positions and some other typewriting procedures may be considered elementary in the total scheme of teaching typewriting. However, use of hands, head, body torso and other extremities may be thought of as higher on the heirarchy of demonstration techniques.

Study of man's space has been entitled proxemics (Hall, 1966). The use of personal space and control of territoriality is a social and institutional phenomenon. For example, teachers who are more familiar with the institution tend to be perceived more dominant over teachers who are less familiar or younger in the institution. In one midwestern high school, a teacher new to the system inadvertently sat in the chair of a teacher senior in the system. Both teachers were of the same chronological age. Through both verbal and nonverbal behaviors, the old teacher claimed possession of the

chair and other teachers familiar with the lounge in which this situation existed continuously upheld the senior teacher's "rights" of territoriality to that chair.

A distortion of perceptual space creates a distorted communication. A concept as complex as proxemics requires more than one research technique. The researcher who inquires into the spatial arrangements and students' perceptions of space in the classroom contributes to the multidimensional aspect of the problem.

Purpose of the Study

Classroom teachers spend a considerable amount of time in direct contact with students. Traditionally, teacher-education programs focus on the verbal behavior of teachers as they interact with students. A review of literature in teacher education from 1960-1971 reveals few if any studies have been done on teacher nonverbal behavior. Birdwhistell (1970), who has taught his science of kinesics to young psychiatrists in the past, now wants to concentrate on working with educators. He wants to do basic behavioral research on what makes a teacher good . . . what is an optimum teaching situation.

This seems particularly true in regard to the teaching of specific skill subjects such as typing (West, 1969). Price (1971) observes, when discussing a proposed business teacher education model under professional education, that

"Those instructional practices appropriate to business subjects at both the secondary and post-secondary level should be given appropriate attention." Little attention has been given in recent years to teacher behaviors in the business education field. In a review of business education literature covering 1957-1970, only one study on "The Relationship Betwen Teacher Conformity to a Behavioral Model and Student Achievement and Attitude in the First Course in Basic Business" was found. That study dealt with observable verbal classroom activity only. Twenty-five articles (Forum Summaries, 1970) were listed in 1970 in business education literature under the main topic, Methods of Instruction, but not one dealt with teacher behavior, the act of teaching relating to proxemics or kinesics. Nearly a dozen (eleven to be precise) articles were listed under the topic of Teacher Education but none had to do with the subject of teacher function, behavior, kinesics, proxemics, or demonstration techniques. The lack of study on different teacher nonverbal behaviors, however, has not inhibited the number of teacher-education principles which promote certain nonverbal behaviors.

In recent years, much educational funding has been expended on the hardware of instruction, the mechanical devices used to teach and drill students. Teaching and instructing can be carried on in many ways such as using instructional hardware as teaching machines. Educators tend to assume that students have had a subsequent activity in

their earlier schooling (Gage, 1963) and that it is not necessary to repeat or initiate a like practice. Because of too many false assumptions, certain viable practices have consequently been neglected.

Much teaching has been delegated to devices and instruments. These are effective for drill and practice, particularly at low levels of knowledge or skill acquisition (Bushnell, 1967) but not enough attention has been devoted to the training of teachers in behaviors and instructional practices for overlapping and lower level skills. Price (1971) challenges these practices as follows:

> Proliferation of course titles indicates how many and varied are the courses and a study of the curricular overlap indicates that one student might be exposed to two to five or six of these courses during his formal education. But the prevalence of low function activities by teachers or the non-function of teachers who assume the student had been exposed to high function practices in previous courses present a real challenge to our present teaching practices. (p. 25)

Therefore, it would seem imperative that teaching practices should receive attention on three levels: scientific, procedural, and teacher training. The present study will be designed to give scientific validation to one aspect of teaching practices by using "good" and "bad" procedures and with data which will be of use to teachers in training. "Good" and "bad" is not used in the moral sense here but in the sense of a good model to follow as defined by Miller and Dollard (1953).

Whether boys and girls perceive the behaviors of their teachers differently is an important question. Mehrabian (1968) reported sex differences in body relaxation for liked and disliked addressees. Males were found to exhibit dislike for an addressee by body tenseness whereas females were found to exhibit dislike by general increased body relaxation.

Haase (1970) found no significant difference between males and females in relation to instructional set and distance in a counseling relationship. Sommer (1969) studied space and territoriality and reported that introverts generally kept people at a greater conversational distance than extroverts did. He studied and reported many aspects of classroom space, territoriality, and spatial behavior which will serve as a basis for the question concerning the teacher's use of the student's chair in this study.

Fast (1970) defined space as social distance having a close phase and a far phase.

> The close phase is four to seven feet and is generally the distance at which we transact impersonal business. . . . The far phase of social distance, seven to twelve feet, is for more formal social or business relationships. (p. 33)

Drew (1970) found that corner seats facilitated subject interaction more than alongside seating; and across from seating and opposite more than alongside. He considered seating to be a primary research concern.

Beyond verbal formalized presentation of content, the classroom teacher is cueing students by using nonverbal behaviors. Some of these nonverbal behaviors may have direct bearing on student learning or counteracting verbal behaviors. The cues can be consciously used or exhibited by the teacher or they can be subconscious and outside the awareness of the teacher. They also can be observed by the students consciously or they may be outside of the conscious awareness of the student.

Just as verbal cues have a direct effect on learning, for example a teacher in a typing classroom may say, "You have eight fingers, you will memorize the home row of the typing keyboard on which these eight fingers will be based," nonverbal cues have a direct effect also. Nonverbal cueing makes a significant difference in students' learning behavior. For example, the teacher's brisk stride through the aisles of the classroom may suggest that no student is to stop the teacher to ask a question.

Close personal attention of the teacher to the student may make a difference how the student learns. The teacher sitting and working with a student rather than walking about or sitting at the front of the room may make a difference in how the student learns. Therefore, it is assumed that close personal attention (example: physical presence) makes a significant difference in students' learning outcome.

Whether the teacher looks directly at the student or not may be a distinct nonverbal cue and may make a difference how the student learns. Therefore, eye contact is assumed to significantly affect learning behavior.

The sex of the student may have a relationship upon his response to teacher behaviors. Therefore, it is assumed that the sex of the student significantly affects his perceptions of teacher physical presence and nonverbal cues and affects learning behavior.

Finally, the contact a teacher makes with a student in physical form, such as touching a student, may make a difference in the student's learning. For example, if a teacher is inhibited from touching a student's hands appropriately, other positive cues given by the teacher may be less effective because of the inhibition. Therefore, it is assumed that appropriately touching students significantly affects learning behavior.

Statement of the Problem

The purpose of this study is to investigate student perception of teacher nonverbal behaviors in the classroom. Students were asked if the teacher who used certain nonverbal demonstration-modeling techniques elicited more or less favorable learning responses. From analysis of the data, it was sought whether the following made a difference how the learner felt he was being helped to learn:

(1) The demonstrator model's distance from the student,

(2) The demonstrator model's physical contact with the student, and

(3) The demonstrator model's eye contact with the student.

Definition of Terms used in the Study

The definitions of terms used in the study follow:

Perception.--the awareness of a person to an external or internal feeling or observation. Specifically, in psychological terms this awareness is primarily through the senses (English and English, A Comprehensive Dictionary of Psychological and Psychoanalytical Terms, 1958.)

Behavior.--the manner of conducting oneself in particular way; to conduct oneself in a proper manner; to act, function, or react in a particular way.

Proxemics.--the study of distances, usually between persons. Proxemic behavior is how persons conduct themselves in spatial relationship to others; territoriality and spatial needs as an integral need in the maintenance of physiological as well as psychological homeostasis (Kelly, 1971).

Kinesthesis.--sensory experience derived from the sense; the sense mediated by end organs located in muscles, tendons, and joints and stimulated by bodily movements and tensions. Kinesthetic movement is an individual expression of the person's organismic personality. Example: He is "quick"; she

never seems to be in a "hurry." Birdwhistell (1970) has developed a measure of kinesthetic activity called the "kine."

Affective.--relating to, arising from, or influencing feelings or emotions; affect applies to the acting of a stimulus strong enough to produce a noticeable response or reaction or modification; influence presupposes an agent that acts to change in some degree one's nature, character, or behavior. Touch may suggest forceful or emotional stirring. Impress suggests a deep or lasting effect. Sway implies the acting of influences that are irresistible.

High function teacher activity.--clearly visible operations or actions of the teacher in official capacity or occupation.

Low function teacher activity.--duties or services of the teacher within occupational role having little visible activity.

Vignette.--a brief oral or visual picture or sketch.

Role.--the prescribed part or function played by a person.

Demonstration.--an act, process, or means of showing to the intelligence. Imitation is to follow the model, pattern, or example as demonstrated. Copying is the direct evidence or sequence resulting from demonstration. Modeling is to provide a pattern, example, or action to be followed.

Nonverbal.--without voiced articulation or communication.

Space.--the region surrounding an object having distance, area, volume. Personal space is that "bubble" surrounding an individual within which he feels his person occupies the area. Public space is any area in which persons may circulate freely but not necessarily intimately; public space may be institutional. Invasion of space intones the intrusion of some foreign person or object into an area of space not normally intruded; for example invasion of personal space intones breaking into the "bubble" of spatial intimacy surrounding an individual. Distance denotes a measureable degree of space between two persons or objects. Social space is space between two persons or objects associated through a relationship less than intimate but closer than that considered public.

Territoriality.--the ownership of space surrounding an individual or object.

Hypotheses

The independent variables that the investigator studied for the purpose of determining student perception of the teacher-model were invasion (distance), touching, and eye contact.

Invasion. Discussion: Close personal attention may be exhibited in several ways, such as writing comments on

papers, calling students by name, and the like. In the non-verbal mode, close personal attention may be exhibited by the teacher's willingness to come near and possibly sit near the student while the student is working. In the typewriting classroom, this is mechanically less easy than in some settings since the equipment is heavy and the student cannot move it to the teacher (West, 1969). The teacher may wish to roll a chair up to the student's place of work in order to assist the student. The teacher may wish to exchange places with the student and sit in the student's chair and demonstrate a particular procedure. These teacher activities may have a positive effect on the student's learning, or a negative effect--depending on the student's feelings about his personal space.

H_o 1. Secondary school subjects upon viewing 30-second televised episodes illustrating two conditions of distance will report no difference on a special scale between episodes showing the teacher sitting close to a student actor in a second chair and the teacher sitting in the student actor's own chair.

Touching the student. Discussion: For many years the admonition,"Don't touch your student," was given to teachers in training and was periodically reviewed to classroom teachers. There are good reasons for the generalization, most of them stemming from laws governing discipline in the classroom and community mores governing student-teacher relationships.

However, some situations regarding the touching of students are appropriate and may assist the student in learning (Montague, 1971). For example, demonstration of correct hand position at the typewriter may not be sufficient and the teacher may be more effective in touching the hands of the students at the keyboard to assist the student in achieving a better hand position.

H_o 2. Secondary school subjects upon viewing 30-second televised episodes illustrating two conditions of touching will report no difference on a special scale between episodes showing the teacher touching the student actor and the teacher not touching the student actor.

Body language. Discussion: Eye contact, an aspect of body language (Birdwhistell, 1970) the teacher may utilize to communicate with the student.

In a classroom setting, the student wants the teacher's attention when there is a problem to be solved. The teacher wants the student's attention when he is making an instructional statement. The mutuality of the relationship is often evidenced by eye contact defined as a direct gaze between teacher and pupil. Two gross variations of eye contact are looking at the pupil, "having eye contact" and not looking at the pupil or "looking away from the pupil."

H_o 3. Secondary school subjects upon viewing 30-second televised episodes illustrating two conditions of eye contact will report no difference on a special scale between

episodes showing teacher eye contact with a student actor and no teacher eye contact with a student actor.

Sex. Discussion: In terms of overall communication, the sex of the respondents may affect their responses.

H_o 4. Secondary school subjects upon viewing the sixteen televised episodes illustrating teacher behavior will not differ according to the sex of the respondents.

H_o 5. Subjects will not differ significantly in their reactions to televised episodes involving a female student actor with a female teacher than they will to episodes involving a male student actor with a female teacher.

Methodology

A method to test the effectiveness as perceived by the students of the selected nonverbal cues given by the teacher was developed by the writer for this study. A videotape recording of the teacher's nonverbal actions was made. Following the refinement of the videotaped vignettes, a pilot study was conducted to perfect the presentation and the questionnaire. The refined presentation was shown to secondary school subjects in a comprehensive high school of moderate size in Western Massachusetts. The subjects were asked to respond to each vignette on a special response sheet.

Post-experimental interviews were conducted live with students who had also viewed the videotape and filled in a response sheet. These interviews were conducted after the

student viewed the presentation to obtain their personal reactions and to use the case analysis approach to validate the vignettes, to identify conteminating variables, and to study the feasibility of the videotape method for teacher training. The investigator wished to study its feasibility as a viable method of training teachers in nonverbal cueing and of using videotape stimuli to measure student perceptions of teacher behaviors.

Limitations of the Study

Silent videotape recordings showing live demonstrator-models teaching behavior met the need for projective technique while offering a uniform presentation to more than one audience. The recordings facilitated the uniformity of the behaviors presented to each subject and the objective uniform action in the classroom. Although Haase and Markey (1972) found that live models are relatively accurate predictors of what the subject would do if actually placed in a setting, live models would be difficult to obtain and it would be difficult to maintain uniformity.

The high school from which subjects were drawn, located in one geographic area, limited the generalizability of the results of the study. Subjects in the study were enrolled in first semester typewriting classes. Because these are usually self-selective classes from an elective course, perceptions of subjects may not parallel those of classes selected by other means.

CHAPTER II

REVIEW OF RELATED LITERATURE

It is the task of the educator to develop and implement the best possible means to teach the young the culture and knowledge of his society. The educator must derive from the different disciplines the best communication procedures for that teaching. Birdwhistell (1970) relates to one discipline special communication characteristics in teaching which is the subject of this study.

It is the:

> Task of the behavioral scientist to study what it is that is learned in a social system . . . it is the task of the psychologist to determine how the organism incorporates the experiences which make him a human being . . . the physiologist maps the internal relationships of the various parts of the body . . . As an anthropological kinescist I am concerned with the learned and visually perceptible shifts in the body which contribute to the peculiar communication systems of particular societies. (Birdwhistell, p. 192.)

Beyond verbal formalized presentation of content, the classroom teacher is cueing students by using nonverbal behaviors. Experienced teachers recognize that many of these nonverbal behaviors have direct bearing on student learning. The cues can be consciously used or exhibited by the teacher or they can be subconscious and outside the immediate awareness of the teacher. They also can be observed by the students consciously or they may be outside of the conscious awareness of the student. Little is known about the

potential but differing effects of this nonverbal behavior. In order to exploit these nonverbal cues in a teaching situation, more study is needed.

Classroom teachers spend a considerable amount of time in direct contact with students. Their verbal behavior with students may be affected by their nonverbal cues and vice versa. The purpose of this study is to begin a preliminary investigation into student perceptions and attitudes about a number of teacher nonverbal behaviors.

Body Language

Body language is the special nonverbal expression of communications produced by the literally thousands of distinguishable physical positional shifts per second (Birdwhistell, 1970) having communicational value. The study and control of nonverbal communication will be of value to the teacher for more effective learning by the student under his tutelage. The optimization of teaching behaviors will optimize the communication process and the learning outcomes.

Birdwhistell, a pioneer in the field of the study of body language, has taught his science of kinesics to young psychiatrists, and now he wants to concentrate on working with teachers. He has sought to do behavioral research on what nonverbal factors makes a teacher good . . . what is an optimum teaching situation.

The systematic study of patterned and learned aspects of body motion which can be demonstrated to have definite communicational value has been defined as kinesics (Birdwhistell, 1971; Kelly, 1971). The investigation of human communication by means of linguistic and kinesic techniques is desirable and relevant (Birdwhistell, 1970). Visible body activity, like audible accoustic activity, systematically influences the behavior of other members of any particular group. Visible body activities include body acts, body positions, facial expressions, head orientations. All these behaviors might be termed extra-linguistic and are potential contributors for learning in the classroom setting.

Body activities as well as facial expressions are important and should not be omitted from the repertoire of a demonstrator-teacher model. This is particularly true for the teacher who teaches typewriting and uses a demonstration typewriter and stand.

For the teacher, space is interrelated to nonverbal behavior.

> Man's sense of space is a synthesis of many sensory inputs: visual, auditory, kinesthetic, olfactory, and thermal. . . . We learn from the study of culture that the patterning of perceptual worlds is a function not only of culture but of RELATIONSHIP, ACTIVITY, AND EMOTION. (Hall, 1966, p. 319)

The study of man's space has been defined as proxemics (Hall, 1966). A field of study as complex as proxemics needs a number of measurement techniques. The researcher who inquires

into the spatial arrangements and student's perceptions of space in the classroom must recognize the multi-dimensional aspect of the problem. The researcher of proxemics and non-verbal behavior must also acknowledge the cultural modifiers to these behaviors. Cultures vary in their means of communication and even in the way in which their members learn to learn. Hall reports that:

> . . . people reared in different cultures learn to learn differently. Some do so by memory and rote without reference to 'logic' as we think of it, while some learn by demonstration but without the teacher requiring the student to do anything himself while 'learning.' Some cultures, like the American, stress doing as a principle of learning, while others have very little of the pragmatic. The Japanese even guide the hand of the pupil, while our teachers usually aren't permitted to touch the other person. Education and educational systems are about as laden with emotion and as characteristic of a given culture as its language. (Hall, 1959, p. 291)

This makes it difficult for the individual to teach or learn in another culture because, in addition, the method of learning once learned is difficult to change. For example, the Aivilik Eskimo (Montagu) defines space more by sound than by sight. Thus, the auditory apparition is more important to them than the visible one, and they would say, "Let's hear what we can see" whereas we might say, "Let's see what we can hear."

Other physical evidences of cultural differences, even geographical differences within one nation, are the eye blink, expression in the arts, and extensions of the self in home decoration and the like.

Fast (1970) calls the eye blink or eye management the most important part of the human body to transmit information. He accords the stare and the eye blink or gaze as the non-person and the person look. For instance, we stare at art or animals in a zoo, the non-person thing, but we gaze at persons utilizing a refined blinking pattern to give persons humanitarian treatment.

The understanding of cultural differences in eye blink and stance in looking at people is very important in schools serving more than one ethnic group and by people serving ethnic groups different from the one in which the people were reared. Fast cites the case in a New York City high school in which the principal misread the attitude of a Puerto Rican girl because of her downcast eyes. He misinterpreted her downcast eyes as a sign of guilt whereas in her culture, downcast eyes are a sign of respect and obedience to an adult. Fortunately, a teacher of Spanish literature explained that the student was not avoiding the principal's eyes out of defiance, but out of a basic demureness. But the near riot over the incident, the strange confusion of the principal, and the fortunate presence of a courageous young teacher to mediate two cultures are only indicators of the need for a teacher's awareness of nonverbal behaviors.

Expression in the arts (Dance, 1967) varies geographically and culturally, making it sometimes difficult for one culture to understand another, even in nuances of humor. Yet

that communication is essential for that culture to form the bonds that sustain emotions of social union. Clothes, toys, decoration of the home (Hall, 1959) all are extensions of man's primary message system and create the informal education of each new generation.

Hall, in referring to the teaching process (Chapter IV), identifies learning based on linguistics into three parts of a major triad. The communications are overt, covert; explicit, implicit; conscious, unconscious; in awareness and out of awareness; and formal, informal. The major triad is composed of three points: the formal, the informal, and the technical. Formal time, would be minutes and hours; informal would be the verbal expressions, "in a while, later, or in a minute"; and technical would be time as used by a scientist or a technician.

He gives a further explication of the formal triad of the formal, informal and technical as follows:

> It is extremely difficult to practice more than one element of the formal, informal, technical triad at the same time without paralyzing results. A woman who types as an informal activity knows that if she starts thinking in detail technically about what she is doing with her fingers and where the letters are located she will have trouble. Beginners who are studying shorthand are told that they 'have to get it in their fingers' or they will not pick up any speed. A friend of mine, a neuro-psychiatrist, once pointed out that it was enough to draw attention to one level of activity while a person was operating on another to stop all coherent thought. . . . While one will dominate, all three are present in any given situation. (Hall, p. 89)

Hall has entitled the cultural characteristic of time as monochronic and polychronic. The Northern Europeans are

characterized by monochronic time sense--that is, they compartmentalize time; they schedule one thing at a time and become disoriented if they have to deal with too many things at once. They feel that order is important. Conversely, the Southern Europeans are characterized by polychronic time--they tend to keep several operations going at once, they do not feel that order is important but that the pushiest person gets served first, and they prefer settees and sofas in offices over desks.

Confusion over culture and behavior in their relationship to teaching behavior, however, is evident in the statement made by Gage (1963). He cites the influence on teaching patterns by philosophical traditions more than by research on learning which would seem to be confusing based on Hall's findings in studies of culture.

If we are to accept Hall's findings that different cultures teach members to learn to learn differently, research on learning must also be oriented to the culture in which it is conducted.

Nonverbal behavior, then, is determined culturally, informally and formally. The individual within a culture moves individually, however, and his movement or his presentation of his self in his encounters and interactions with others becomes highly complex communication. Kelly (1971), in his studies of 60 counseling psychiatric clients and therapists, found that the therapists must recognize the

potential contributions that their own extra-linguistic behaviors had on the client. Likes and dislikes may be exhibited by such proxemic behaviors as trunk lean, and body stance. Kelly found in a one-to-one situation that closer communicator distances (39 inches) convey positive communicator affect or attitude. He also found that farther distances (80 inches) convey negative communicator regard. These are consistent with the findings of Hall (1966) and Mehrabian (1968) and may have implications for the classroom teacher.

Mehrabian (1968) studied liking of communicator for his addressee as evidenced by posture, eye contact, orientation of various parts of the body and distance. In his study of fifty college undergraduates, the subject was to imagine an addressee and to act as if the addressee were intensely disliked, moderately disliked, neutral, moderately liked, and intensely liked male and female. Regardless of sex, eye contact was a parabolic function of attitude, as was backward lean. Generally, females were found in this study to act more relaxed in body positions than males, whereas males were found to act more tense in posture. Visible body activity, like audible accoustic activity, systematically influences the behavior of other members of any particular group.

The presentation of the self carries signals, overtones and communications in everyday encounters and interactions. Fast (1970) cites the example of the beautiful, haughty,

aloof unapproachable teenager whose body language kept her from dancing partners. Goffman uses a dramatic perspective in his treatment of conduct as a dramatic "routine" in which we play "parts" and have "encounters," . . . and the staging of self as a self communicating with others (Fast, 1970). Teachers need to be more aware of the influence of these factors.

Birdwhistell (1970) describes the difference between encounter and interaction as encounter occuring prior to interaction. He says an encounter becomes an interaction when the participants become communicants or when they interact rather than counteract when they find it possible to introduce cross-referencing signals into the scene in such a way as to sustain continuing adaptive association.

Student perceptions of nonverbal teacher behavior have been studied infrequently. However, Ginott (1972) reports that students who recalled their teachers remembered feelings left over from the nonverbal behavior exhibited by the teachers. It might be said that the student recalled historical feelings resulting from the interactions occurring over the time he was under the teacher's instruction. These remembrances may relate to a number of factors including a teacher's overconcern to one's trust and delight. The student may not remember the behavior but will remember the residual feelings.

The body language of the teacher may be perceived differently by the children in the classroom and by the adults who may be in contact with the teacher. Gage (1963) reported that when using children's perceptions of teacher behavior rather than trained observers, eighth grade students perceived 33 teachers (classes) as follows:

> The extent to which eighth grade students perceived the teacher as warm and friendly was significantly related to the amount of self-initiated work and amount of required work performed within almost all classes and between composite scores on the same dimensions over all 33 teachers (classes). Furthermore, students agreed quite well as to how friendly the teacher was. The "competence" dimension, as measured, was highly related to the warmth dimension and was also related to the work measures. The dimension of authoritarian rejection was NOT related to amount of work performed nor was there a high degree of agreement among students as to teacher placement on this dimension. That the evaluation by principals did not agree with students' evaluations suggests that perceptions of children, adults, or both may not correspond to the actual behavior of teachers--a state of affairs hardly surprising in the light of research on perception itself. (p. 478)

Based on this one study, it appears that students may produce about the same amount of work whether the teacher is friendly, cold, or authoritarian rejecting. Students seem to agree that competence is highly related to a teacher's warmth, and subsequently the amount of work produced is also related to warmth. Adult observers may not agree with the students but students agree with each other. These findings are important for this study if variables of space and nonverbal behavior are to be identified and discriminated amongst by students.

Sex

The question of whether boys and girls perceive the nonverbal behaviors of their teachers differently is an interesting one. Mehrabian (1968) reported sex differences in body relaxation for liked and disliked addressees. Males were found to exhibit dislike for an addressee by body tenseness whereas females were found to exhibit dislike by general increased body relaxation.

Willis (1966) reported that generally women were found to stand closer to the person they were speaking to than men were. For both acquaintances and close friends, women stood closer than men, but men were found to stand closer to friends they were speaking with than women did. The means for speaking distance were women, 21.58 inches, and men, 24.46 inches.

Haase (1970) studied male and female reactions to variable distances. Although no differences were found between males and females in the instructional set, thirty inches was the most preferred distance of nearness as compared with thirty-nine inches, fifty inches, 66 inches, and 88 inches.

Leibman (1970) conducted a careful study of 98 white native-born females in regard to intrusion of personal space. She concluded that sex was an influence as subjects sat larger distances from male confederates than from female subjects. She found in a reception room, "Females would intrude upon the personal space of other females more than upon

personal space of males. Female subjects sat significantly closer to females than for males. She found racial difference in that, if black female subjects had had a choice, they chose equally between black and white female confederates as did white female subjects but clear preference for black male over white male.

The historic (1956) studies of Youth, The Years from Ten to Sixteen, at the Gesell Institute of Child Development reported many differentiations between the sexes. Each age is defined and studied and reported by sex. It appears apparent that research into teacher nonverbal behavior must acknowledge sex differences.

Model

Our culture emphasizes the classroom teacher as a model. Model applies to something taken or proposed as worthy of imitation. Miller and Dollard report (1953) that apparently the term "model" in cultural and educational studies was first systematically used by Bernard in 1926. The more dissimilar every character of the "good" and "bad" model is, the easier it will be for the discrimination to be learned.

All are familiar with the idea of a person who engages in the business of modeling clothing, a person who is called a mannequin. These persons have very distinctive ways of handling their bodies and their extremities to "show off" the clothes more attractively. Modeling is a major means of

learning details in a culture informally (Hall, 1959). He says:

> Unconsciously a great many people recognize the validity of using models as the major instrument of informal learning. As a whole, women in the United States are more aware of this than men, though they too are apt to overlook imitation for what it is--a way of learning--a way of becoming a member of society. (p. 93)

Imitation

In the concept of society's being taught or developed by imitation (Miller and Dollard, 1941, 1953), the teacher serves as a leader and the one to be imitated. The three basic or sub-mechanisms of imitation may be defined as "same behavior", "matched-dependent behavior," and "copying." "Same behavior" does not apply to classroom. Matched-dependent mechanisms and copying are both viable for the teacher-model. The matched-dependent model may be found throughout society where the person serving as a model is more mature or skilled. As in teacher education, the experienced master teacher is the matched-dependent model for the young trainee.

In the second mechanism, copying, one person learns to model his behavior on that of another person. The copier must know when his behavior is the same and it is important that he have a critic to reward his correct and appropriate copying. Copying goes on at all ages of life. The critic may be another person who develops his ability to reward and

punish correct and incorrect copying (Miller and Dollard, 1941, 1953). The behaviors that teachers utilize are only partially related to personality characteristics and are only partially learned as techniques of teaching (Ryan, 1960; Nelson, 1969). These behaviors are "valued behaviors" (Oliverio, 1971) which the superior teacher utilizes along with competence in imparting a body of knowledge.

Copying an example is the basis of demonstrations by a model. The model demonstrates and the critic rewards correct following of the model. Demonstrations are not new to society nor to education and they are not unique to any one subject or grade level (Dale, 1952; Miller and Dollard, 1941, 1953). The demonstration technique is appropriate in the typewriting classroom. Demonstrations are a means for the teacher to serve as a model for the learner (Miller and Dollard, 1941, 1953).

Miller and Dollard (1941) in their classic book, Social Learning and Imitation, discuss modeling in its several forms. They trace the history of imitation as it rests upon reinforcement theory in social learning to Terman (1904), Thorndike (1911), Pavlov (1927), Watson (1919) and Hull (1941).

Miller and Dollard (1941, 1953) found that drive is often built upon imitative drive. They found that imitation generalizes to new, somewhat similar behavior and that it is not confined to childhood and that imitative responses can

and do appear at any time along the life line where the situation calls for them.

Four classes of persons who are imitated by others were delineated by Miller and Dollard (1941, 1953). These are:

1. Superiors in age-grade hierarchy,
2. Superiors in a hierarchy of social status,
3. Superiors in an intelligence ranking system, and
4. Superior technicians in any field. (p. 183)

It is important for the classroom teacher to understand why these persons are imitated. "Superordinated persons recognize the cue stimuli which designated the nearness or presence of important goals. The subordinated, seeking these goals, often find it easier to depend upon cues given off by the activity of the leaders. In other words, Miller and Dollard propose that classroom teachers can act as models and critics to aid their students in perfecting the desired habits.

West (1969), a business educator, asserts that the typing teacher should be cognizant of the conditions surrounding the learner's attempts to imitate:

> No matter what you may do by way of demonstration of techniques, never forget that demonstration is merely a form of "guidance," of showing the learner in advance of his response, what response he is to make. What really counts, then, are the conditions surrounding the learners' attempts to model their behavior on yours. (p. 135-136)

Demonstration

According to Dale (1952) to demonstrate is to provide a display and explain the merits, utility, efficiency, of an action or a product. In teaching, we broaden the definition to include the illustration to ideas, skills, attitudes, processes and other intangibles. He offers the following.

Demonstration provides opportunity for nonverbal communication between teacher and student. The classroom teacher who demonstrates must remember that the demonstration is a dramatic performance. It is important to plan every step carefully in advance. (A check-list of necessary equipment is a simple means of preventing the confusing moments when the demonstrator discovers he is missing an important piece of equipment.) Dale recommends several points: rehearsing the demonstration, preferable with a "guinea-pig"; outlining the required steps on the chalkboard, keeping the demonstration simple and avoiding mixing basic ideas and refined points; and preventing digression from the demonstration by student questions or other interruptions. He cautions that demonstrators must be careful that every member of the audience can see, and that everyone understands each step. For the typing teacher to meet Dale's criteria, he may have to conduct the demonstration twice to smaller groups; insure that the demonstration is unhurried but does not drag; summarize throughout step by step; and that before repeating the demonstration again, evaluate to see if it is

really necessary. He recommends passing out written materials, discussing the written materials, and checking after the demonstration to be sure all key points are understood.

West (1969) reiterates two of Dale's recommendations regarding typewriter demonstrations: Repeat demonstrations closer to small groups of students rather than have one large demonstration that some cannot see; and be sure that everyone can see the demonstration. He goes on to say that "some aspects of technique of (typewriting) machine operation can be effectively demonstrated by the teacher to the class (e.g., stroking rhythms)." As West says, "Some demonstrations are to be seen (e.g., assembling a carbon pack in the machine); others are to be heard (e.g., the sound of stroking at a particular speed)."

It would appear that for the study of proxemics there would be no essential difference in the impact of a demonstration compared to a motion picture in which a teacher shows how to develop and print photos and an actual classroom demonstration of the same process (Dale, 1952). For example, the typewriting teacher can demonstrate inserting carbon and paper pack into the typewriter by holding the paper securely with one hand and turning the platen knob swiftly with the other hand so papers do not slip and become disarranged. The same principle is true of threading a motion picture projector. The operator must make sure certain perforations on film are properly engaged. According to

Dale, the process can be shown effectively either in a movie or in a live demonstration.

Modeling by the teacher as an ongoing demonstration in the classroom is limitless. Recognizing the importance of nonverbal behavior is an important aspect of teacher education in using demonstration techniques.

Distance

Another factor in analyzing teacher body behavior is distance. The concept of distance between teacher and student has long been intuitively at least, considered important to the learning process. However, only recently has the factor of distance been put to objective measures and tests. Sociologists have been interested in the concept for the past 30 years as our world becomes more crowded and people are constantly forced together. Webster's definition of distance indicated that distance is both objective and subjective. Distance is defined as: that amount of separation either linearly between two points or spatial remoteness as a quality or state of being distant, suggests that man perceives both tangible measureable and psychological nearness to objects.

Where does the classroom teacher turn to better understand distance as a variable in effective teaching? Part of the answer lies in the study of proxemics. Proxemics, according to Kelly (1971), is the study of distance, eye contact,

body orientation, and directness of orientation of a speaker towards his addressee. There are many sensory inputs which affect man's sense of distance, i.e., space. Hall (1966) asserts that ". . . no single research technique is sufficient in scope to investigate a complex, multi-dimensional subject like proxemics." The theory of proxemics was developed by Hall (1966) and is the study of how man unconsciously structures microspace, which is the study of the "distance between men in the conduct of daily transactions, the organization of space in his houses, and buildings, and ultimately the layout of his towns" (Dance, 1967). For classroom teachers, proxemics is a fertile area of study. The components of distance will be further reviewed in this chapter.

Color - Tempo

Distance and the perception of distance will be greatly influenced by the phenomenology of the event, the culture in which the perception is taking place, and the circumstances surrounding the perception. Drew (1971) studied seating arrangement as related to color of room, and size of room, in playrooms and hospital wards. He reported that in rooms lighted with red, persons reacted 12 percent faster than ordinary light. He also discovered that reactions were slower than normal in green lighted rooms. Color influences judgments of time, length, weight to the extent that judgments can be measured and that red produces over-estimates

and green or blue produces under-estimates. He reported that soft and deep colors facilitate mental and visual tasks. All of these factors have to be attended to by researchers who wish to study factors of teacher-student distance.

Seating

A number of experiments exploring different seating arrangements have been conducted. Typing teachers usually must follow a permanent seating arrangement. Their classroom equipment is too heavy to move and is usually arranged for the convenience of builders and electricians and not on good learning environment. This factor needs further review. Drew (1971) reported that in experiments testing the seating preferences of subjects, corner seats facilitate subject interaction more than along-side seating and across from seating; and opposite seating facilitates subject interaction more than along-side seating. While the typing teacher may be more concerned about individual skills than subject interaction, these are implications for the typewriting classroom.

Leibman (1970) conducted experiments with ninety-eight white native-born females between the ages of 17 and 59 and 18 black females aged 17 to 43 to discover seating preferences in one company. The three sets of conditions in which this experiment was conducted were free-seating choices utilizing a six-foot bench, intrusion choices utilizing an occupied three-foot bench, and intrusion-nonintrusion

choices utilizing an empty three-foot bench and a bench occupied by a white female confederate. The basic assumption in this experiment was that intrusions of personal space would be avoided when possible. This assumption was upheld. It was hypothesized that: (1) white females would maintain greater interpersonal distances from male strangers than female strangers, and from black strangers than white. Neither the sex nor the race of the confederates were significant main effects because subjects sat at similar mean distances from all four confederates. The range of distances subjects sat was large, 13 inches to 39 inches. Leibman concluded that interpersonal distance is not influenced by race of the confederates but subjects will leave a larger distance between male confederates than female.

She further hypothesized that: (2) subjects, if given a choice, would prefer nonintrusion to intrusion of personal space. All twelve subjects in this portion of the experiment chose the empty seat. Also, if they were forced to intrude, range was three to eleven inches of the less than eighteen inches available. To leave eleven inches out of eighteen inches available left them only seven inches to sit in, which indicates the wish for nonintrusion. It was also found that older women tended to sit further from confederates. Of the sex variable, females would intrude upon the personal space of other females more than upon the personal space of males.

Subjects sat significantly closer to females selected over males than to males in both kinds of intrusions.

Leibman's (1970) final hypothesis was to predict that white females would be more likely to accept personal space intrusions with other whites than personal space intrusions with blacks when such choices are possible. This prediction was not of race in this setting. Black subjects chose equally between black and white female confederates as did white subjects. However, there was a clear preference for black male over white male. Leibman reported that black subjects were influenced by race while white were not.

Besides upholding the original expectation that intrusion will be avoided whenever possible, this experiment proved that race and sex were not as salient in this controlled, respectable, predictable, familiar setting, officially. In terms of the study reported here, this point is important to the invasion and sex variable, and the the interview situation. Personal space will not be determined by characteristics of the situation which are clearly present but for which norms are not relevant.

Distance within small groups has been explored in detail by Sommer. His experiments, distance limitations for comfortable conversation and distance in approved seating arrangements, have relevance to the variables manipulated in the study reported here. Sommer (1969) utilized attitudes rather than work output as his focus of observation.

Attitudes of cooperation, competition, or separate action were studied in relationship to seating in many different settings. He reports that variables of psychological intimacy studied with 100 subjects in five countries (United States, England, Holland, Sweden, and Pakistan) were found to be identical in all five countries. Rank order seating arrangement from most intimate to least intimate were as follows: Side-by-side, corner seating, face-to-face, and last was distant or catty-corner. In a cooperative-competitive experiment, Sommer's subjects were told nothing about the task to perform, but only that his partner (or opponent) had already arrived and was waiting in the experimental room. The room contained a large rectangular table (41 x 41) and the decoy always occupied the same chair--one from the end along the side of the table. The perceived relationship of cooperation or competition had a significant effect on seating. In the cooperative condition, 13 people sat on the same side of the table as the decoy and 11 sat opposite whereas in the competitive condition, only four sat on the same side as the decoy and 19 sat opposite. In this writer's study, seating side-by-side in the teaching-learning vignette is a cooperative situation. Sommer also found in the same study, the trend that females make greater use of side-by-side seating.

Sommer (1969) studied approval-disapproval seating motives to discover if a subject would be influenced by

prejudice before sitting with a decoy. The average distance the subject remained from the decoy in the approval-seeking condition was 57 inches compared to an average of 94 inches in the avoidance condition.

Sommer studied the limits of comfortable conversation and found that by moving two couches various distances, two slightly acquainted people discussing impersonal topics would sit side-by-side when couches were too far apart and would sit opposite each other when the couches were close enough for conversation to be comfortable. Opposites were distances of 1 to 3 feet apart, and side-by-side began at 5½ feet apart. Sommer concluded that from a practical standpoint, knowledge of how groups arrange themselves can assist in fostering or discouraging relationships. In the classroom, many aspects of proximate environment have been placed for ease of maintenance and efficient cleaning with little cognizance given to their social function.

For the purposes of this study, it was necessary to investigate distance and perceptions of distance to determine teacher-invasion and student space. It was found that distance or space had been investigated as early as 1959 (Hall) and categorized into approximately four general topics: Intimate distance, personal space (Sommer, 1969), social distance (Fast, 1970), and public symbolic distance (Kelly, 1971).

Intimate space. Intimate and personal space are practically synonomous in that intimate space is that area surrounding a person, sometimes called a "bubble" into which he permits no one other than the most intimate relationships; and personal space is that area surrounding a person's body into which intruders may not come (Sommer, 1969). Hospital privacy is a description of personal space. The area a student uses, including his typewriting table is that student's personal space in a typewriting classroom.

Personal space. One of the earliest attempts to invade personal space on a systematic basis was undertaken by Williams (Kelly, 1971) who wanted to learn how different people would react to excessive closeness (Sommer, 1969). Classifying students as introverts or extroverts on the basis of their scores on a personality test, he placed each individual in an experimental room and then walked toward the person, telling him to speak out as soon as he (Williams) came too close. Afterward he used the reverse condition, starting at a point very close and moving away until the person reported that he was too far away for comfortable conversation. His results showed that introverts kept people at a greater conversational distance than extroverts. Kelly reached similar conclusions in 1971.

Invasion

Another manipulated variable in this study was the degree of invasion a teacher makes in teaching a student to type. Sommer (1969) reports invasion of typical seating arrangements in public places such as libraries require a newcomer to sit at a considerable distance from those already seated unless the room was crowded. Occupying the adjacent chair and moving it closer to the victim produced the quickest departures. There are defensive gestures, shifts in posture, and attempts to move away and if these fail or are ignored by the invader, or he shifts position too, the victim eventually takes to flight. The phenomenon has been studied in birds and defined in three ways:

Arrival distance or how far from settled birds a newcomer will land,

Settled distance or the resultant distance after adjustments have occurred, and the

Distance after departure or how far apart birds remain after intermediate birds have left.

These three terms were utilized to study arrival distance and settled, that is comfortable distance, in library studies and mental hospitals. It is noteworthy that the preponderance of flight reactions occurred under the condition of the invader maintaining his arrival distance and not permitting the victim to achieve a comfortable settled distance. There was a dearth of direct verbal responses to the invasions.

Another term for the phenomenon of distance a person maintains around himself, both in private and public places, is territoriality. Territoriality is defined as (Sommer, 1969) the consistent use of particular beds, chairs, and table areas . . . the close association between space and status. Considerable research on territoriality has been conducted with wild and captive animals, students, and persons in specified territories. Territories people inhabit include public: parks, courtyards, multiple entries; home: clubhouse of children, coffeehouses, dormitories, special bars in which the client always chooses the same stool; and interactional: social gatherings. Territoriality provides, under normal conditions, a private area for each person but in public places it may limit the number of persons who can use a building below the optimum number planned for it. For example, if a student searches out an empty classroom and feels himself the space owner, the building may contain only twenty classrooms, this limits the number of users of the building. A student may always choose the same chair or study desk in a classroom when a free-seating opportunity exists, even when the student cannot hear or see the presentation well.

Man's space has previously been relegated to political boundaries and intuitive regional differences until recent anthropological investigations (Hall, 1959, 1966; Birdwhistell, 1970). Methodological methods of studying

space have improved with the technological advances of recent years. The use of slow-motion pictures has made it possible to study the minute bodily and facial expressions which facilitate defense of space or of other attitudinal details relating to persons and groups' use of space.

Running the gamut from in vivo tasks performed to the more projective forms of opinionaires and unobtrusive measures of psychological distance, studies of space and invasion of territory have been made to measure man's feelings and behaviors. One of these, Haase and Markey (1972), utilized four methods to investigate man's interpretation of his personal space: in vivo subject participation, the placement of felt figures on a felt board background, preferential judgment of photographs, and placement of live actors. From analysis of data collected in studying these four methods of studying space, the authors found that the best estimate of actual behavior in a proxemic situation is the situation in which the subject is asked to observe the live interaction of two other persons who, beginning at a distance of 15 feet move until they were at a distance the observer felt was comfortable for a conversation. The next most valid methodology Haase and Markey (1972) found was that of felt board placement in which subjects placed 9 and 10 inch felt figures on a 2' x 3' felt board until the figures were placed as if the two were going to carry on a conversation. Finally, in this cluster of activity-oriented methodologies, in vivo

participation in which the subject actually did approach another person from a distance of 15 feet until they were at a distance comfortable for a conversation was the least accurate representation. But the least accurate representation of in vivo behavior was the use of photographs, and the photograph technique composes a distinctly different dimension, a more static dimension. The methodology for studying human interaction in this study shows that, while in vivo techniques may be most desired, methodologies which do not require actual subject participation are more easily administered, can be given in group settings, and facilitate data collection. Indeed, for the purposes of this author's study, the video tape vignette, although less active, appears justified and reasonable.

Fast (1970) refines the discriminations between distances and invasion by entitling space "social" and "public". Within these two distances, he further defines the close and the far phase. Social distance is the distance between impersonal acquaintances for societal transactions. The close phase he considers four to seven feet and is usually used for transacting impersonal business, meeting new clients, and bagging groceries. It is utilized by the boss to dominate seated employees, to seem larger and more commanding without having to specify the employee is in a "you work for me" situation. It may be used by the teacher to achieve similar results.

The far phase described by Fast is seven to twelve feet and is more formal. The "big boss" will have a desk large enough to put him this distance from his employees and even if he remains seated, he will not lose status at this distance. Attitudes of students in the classroom when the teacher invades personal or social space has been seldom researched. Generalizations on studies conducted in industry need further verification as to their implications for the classroom.

Birdwhistell has developed a set of beliefs on kinesics, that is body motion, and in his Kinesics and Context he theorizes that kinesic structure is parallel to language structure (Birdwhistell, 1970). Birdwhistell contends that there are body behaviors which function like significant sounds, that combine into simple or relatively complex units like words, and these in turn are combined into much longer stretches of structured behavior like sentences or even paragraphs. Although there are geographic and regional differences in the more refined nuances of body motion, gestural activity, and facial expression, it remains that kinesic activity is learned in a particular cultural milieu.

In relationship to the cultural milieu, Birdwhistell and his colleagues dispell the primary misconception that body motion is "natural" and instead have advocated that the mind and its products--body motion, behaviors, facial expressions, and the like--are subject to training.

> There is a prevalent belief which maintains that, beyond certain motor skills which are specially developed particular societies, there is a natural pattern of movement which other peoples have either learned badly, not evolved to, or lost. Or, alternatively, it has been assumed that there are universal core movement patterns characteristic of all men. It is, of course, self-evident that with a common somatic organization with their fingers, turn, lift, and lower their heads, and so on. However, though we have been searching for 15 years, we have found no gesture or body motion which has the same social meaning in all societies. (Birdwhistell, 1970, p. 81-83)

These are important assumptions for the classroom teacher.

Eye Contact

There is a growing body of research in the area of eye contact as one of the potentially measurable nonverbal behaviors. Eye contact or looking at another person when talking with him is an important element in maintaining communication in some cultures, particularly Western cultures. Eye contact is also a means of establishing courtesy and recognition. In some cultures the courteous action of a younger person toward an older person is to look down when being spoken to by an elder. On the other hand, the length of the gaze of looking at another person varies from region to region even within one country. This writer was very aware of the longer gaze between students and teachers passing in hallways in a secondary school on the East Coast and the shorter glance between students and teachers passing in hallways in the same type of institution in the central Middle West.

Unfortunately, there are few studies of this means of communication in teacher education.

Fast (1970) reports that distance from the two participants in a relationship also controls the amount of gaze:

> To get back to the eyes, at this distance (seven to twelve feet) it is not proper to look briefly and look away. The only contact you have is visual, and so tradition dictates that you hold the person's eyes during conversation. Failing to hold his eyes is the same as excluding him from the conversation. (p. 33)

He reported on research conducted in Denmark of visual communication with interviewers. To discover just how long, and when, the people being interviewed looked at the interviewer, interviews were filmed and replayed a number of times in slow motion. In actuality, the participants looked away from each other a surprising amount of time. The man who looked at his interviewer the most still looked away 27 percent of the time. The man who looked at his interviewer the least looked away 92 percent of the time. Half of the people interviewed looked away for half of the time they were being interviewed. It was reported that the speaker looked at the listener very little but the listener looked at the speaker a great deal. When people start to speak, they look away from their partners first. There is subtle timing in speaking, listening, looking and looking away. Another subtle element in looking is the amount of lid-droop reported by Birdwhistell. Lid-droop is such a minute variable that it may not be a useful variable in the study reported here.

Willis (1966) reported that distance in social interaction is related to eye contact and to age. Subjects approached an experimenter more closely when his eyes were closed and children approached more closely than adults.

Haase and Tepper (Kelly, 1971) discovered that nonverbal acts such as "forward trunk-lean or nodding" created twice as much empathy as the verbal message. They claim the empathetic value of a message can be favorably altered by maintaining eye contact, a forward trunk-lean and uttering at least a verbal message that is of medium empathetic value. Even high levels of verbal empathy can be reduced to nonempathetic messages when the communicator utters the message without eye contact and is in a backward trunk-lean, rotated away from the person he is addressing especially from a far distance. The implications of their study are cogent for teacher trainers in that more attention should be focused on nonverbal behaviors.

Eye contact is important to positive communication and although it varies somewhat from situation to situation and from geographic area to geographic area, it is essential that teachers who engage in much human interaction use it effectively.

Touch

Humans touching each other is an aspect of interaction that many persons leave only for intimate communication.

Montagu (1971) writes that:

> The raw sensation of touch as stimulus is vitally necessary for the physical survival of the organism. In that sense it may be postulated that the need for tactile stimulation must be added to the repertoire of basic needs in all vertebrates, if not in all invertebrates as well. (p. 289)

and further,

> Inadequate tactile experience will result in a lack of such associations and a consequent inability to relate to others in many fundamental human ways. Hence, the human significance of touching. (p. 292)

Probably as long as there have been teachers there has been some physical contact with students. Certainly touching as punishment (Mann, 1957) has been historically prominent. Mann (1957) recorded that in Boston in one week in the 1840's there were 92 canings. Touching as punishment would probably be a negative activity in learning and to this writer's interpretation, touching in this report is to be construed as the positive, the gentle hand guiding the learner's hand. Gage (1963) advises guiding the hand thus:

> Certainly other methods (than learning by doing) of learning have value and these include learning by imitation and learning by being shown, as when the teacher takes the hand of a child and guides it in the writing of his name. (p. 486)

Signal Behavior

Most teachers take for granted the students' use of the raised hand for an attention-getting signal, a form of signal behavior. This form of student signal will be used by the student-actors in the vignettes for this study. Signal

behavior studied in more refined form is part of the science of kinesics (Birdwhistle, 1970). The recognition and use of signal behavior are an important area for communication between teacher and student in the classroom. Beyond the traditional classroom signals such as raised hands, there are many means by which the perceptive teacher receives signals from his classroom. There appears to be a dearth of research in teacher education to identify or catalogue signal behaviors and manipulate them to determine their impact on learning and teaching effectiveness.

Judges

Researchers have been plagued by the difficulty in assessing behaviors and attempting to assess behaviors objectively. In 1960, Ryans set out the following nine guidelines designed to increase reliability and validity of teacher assessments made from direct observations of behavior. Note that although the nine guidelines are broad, they are appropriate for judging the sound-recorded interviews and for judging videorecorded behaviors. The nine guidelines are as follows:

(1) Attention to the selection of a limited number of relevant behavior dimensions for observation and assessment;
(2) The provision of specific and unequivocal operational definitions of the behaviors to be assessed;
(3) The observer being well acquainted with the behaviors to be assessed and with the situations in which the behaviors frequently are manifest;

(4) The observer focusing his attention on the specified behaviors and carefully avoiding the influence of general impressions, unusual or dramatic behaviors, and inferences about what behaviors might occur in unobserved situations;
(5) The immediate assessment of the behavior, during or shortly following observations;
(6) The independent assessment of each specified behavior;
(7) The recognition and suppression by the observer of personal biases relative to individuals or behaviors;
(8) Care on the part of the observer to avoid such rating biases as the central tendency error, the leniency error, etc; and
(9) The replication of observations and assessments by independent, though similarly trained, observers. (Chapter IV)

Clinical Supervision

Teacher behavior analysis received considerable discussion by Cogan (1973) in his book on clinical supervision. The discussion emphasized the impact of the nonverbal activity of the teacher as reinforcing verbalizations or of contradicting verbalizations. Since the student uses the teacher's behaviors to ascertain the fidelity of the teacher's words, it is important for the teacher to use appropriate behaviors within his style to further amplify his integrity with the student. He asserts that videotape or sound-film recordings are indispensable for study and analysis of nonverbal behavior. He lists the following procedures as useful:

1. Review film without sound. Review and check nonverbal patterns.
2. Review the film in shorter "takes." Record impressions for each take.

3. Review the entire film with sound. Record general impressions about students' learnings, students' behaviors, and the teacher's behaviors.
4. For closer analysis or micro-scanning some researchers use a time-motion analyzer, which permits the viewer to examine the sound film frame by frame. This is especially useful in identifying complex and rapid nonverbal behavior that is otherwise not apprehended by the analyst. Such sophistication should perhaps be avoided by the naive observer. Clinical supervisors might be well advised to stick to simple behavior and gross analysis at present. (p. 194)

With the methods now available, and the early research on which to base efforts (Rosenshine, 1970; Cogan, 1973), new and improved practices can be developed. The study to be reported here utilized video recordings to investigate student reactions to a variety of teacher nonverbal behaviors in controlled situations.

Summary of the Literature

Educators traditionally have stressed verbal and formal content in training for their profession. Verbal skills, though important attributes of educators, have overshadowed the less publicized but important nonverbal skills.

Nonverbal behaviors, also called body language, are learned behaviors. They are learned within the culture and within the context of the persons behaving. As cultures differ, so the behaviors differ and as cultures differ, so learning to learn in formal school settings differs. One of the functions of schools is to impart the formal heritage of the society in which the school resides. Learners perceive

teachers' nonverbal behaviors from their cultural background. Even small geographical distances may cause differences in body language that influence learners' perceptions. Nonverbal communication is an important aspect of the skills used by the teacher.

Training for the teaching profession is a formalized activity in need of constant surveillance and revision. A need in current teacher training practices is to assist preservice and in-service teachers in becoming aware of and of utilizing their nonverbal behaviors effectively. Some of these behaviors are eye contact, posture, head orientation, fatigue, invasion of personal space, touching, distance from addressee, and sex.

Other aspects of the learning milieu which affects the learner are the color of the room, position of seats and seating arrangements, and the size of groups of persons.

The teacher serves as a model to the learner. The teacher is constantly demonstrating by performance and knowledge to the learner. The learner, by imitating the teacher, learns new behavior.

Review of literature has revealed a number of nonverbal behaviors which have been isolated and can be used to further study teacher behavior. For this study, three nonverbal behaviors by teachers were selected for study. They were eye contact, touching, and invasion. The independent variable,

sex, was utilized. The three behaviors were manipulable by teachers in classrooms, perceptible by students, and trainable for the profession.

CHAPTER III

DESIGN AND PROCEDURES

The customary focus of pre-service and in-service teacher training is on cognitive matter, while teacher nonverbal behaviors are frequently ignored. Yet the effect of teacher nonverbal behaviors in the teaching-learning process may be profound. How the learner perceives the teacher is affected by the teacher's nonverbal behavior and by his recognition of territoriality and privacy of the learner. Teacher fidelity is established and reinforced by nonverbal behavior. Teacher contact with the learner is strengthened or weakened by his physical behaviors--specifically eye contact, touch, and invasion of the learner's territory.

Business educators, because they deal with machines to a great extent, need to be more cognizant of nonverbal behaviors. Three nonverbal teacher behaviors--invasion, eye contact, and touch, were studied in this research.

Design

Hypotheses. The hypotheses, stated in the null manner, are: (1) There will be no significant differences in responses of subjects on an attitude scale after viewing two 30-second televised episodes illustrating two variations of physical distance between a teacher and a student.

(2) There will be no significant differences in responses of subjects on an attitude scale after viewing two 30-second televised episodes illustrating two variations of the teacher touching a student.

(3) There will be no significant differences in responses of subjects on an attitude scale after viewing two 30-second televised episodes illustrating two variations of eye contact between a teacher and a student.

(4) Subjects, upon viewing sixteen televised episodes illustrating teacher nonverbal behavior, will not differ significantly in their responses because of their sex.

(5) Subjects will not differ significantly in their reactions to televised episodes involving a female student actor with a female teacher than they will to episodes involving a male student actor with a female teacher.

Objectives of the Study.

(1) To isolate and present the three teacher behaviors, invasion, eye contact, and physical touch in such a way that learners could react to them.

(2) To study subjects' perceptions of teacher nonverbal behaviors.

(3) To compare student reactions by sex of subjects.

(4) To interview subjects regarding their reactions to the three isolated teacher behaviors.

(5) To study the feasibility of the videotape method for future teacher training programs.

Two instruments were developed, high school subjects sampled, and data analyzed to meet these objectives.

Specification of variables. The independent variables studied in this research were invasion/no-invasion, touch/no-touch, eye contact/no eye contact, sex of actor, and sex of subjects. Specifically, the variables were enactments on videotape of a teacher invading a student's area by sitting in the student's chair and not-invading by sitting in a chair next to the student; the teacher touching the student's hands on the typewriter keyboard and not touching the student's hands; and holding the student's eyes in a direct gaze and not looking at the student at all. The sex of the actor was enacted by a male student and by a female student on the videotape. The sex of the subjects was specified as part of subjects' responses on an attitude scale.

The dependent variable was subjects' responses on an attitude scale to their perceptions of the teacher helping. Subjects responded on a scale from one to five--"Hinders me" to "Helps me very much"--depending upon how effective they thought the teacher would be in helping them learn to typewrite if they were the student actor in the videotape vignettes.

Procedures

Development of videotape sequences. Sixteen 30-second videotaped vignettes were developed to present the independent

variables: invasion, touch, eye contact, and sex of actor. All possible combinations of these variables, including invasion/no-invasion, touching/no-touching, and eye contact/no eye contact were videotaped. Sony 3600 playback one-half inch new format equipment was used.

Sixteen vignettes were used to illustrate these combinations without sound utilizing a young 22-year-old female teacher for the teacher model. The sixteen vignettes were divided equally to show female and male actor with eight vignettes utilizing a male student and eight utilizing a female student for the object of the teacher non-verbal behaviors. (Please refer to Appendix D for list of behaviors.)

Background in the vignettes was nondescript paneling of a regular classroom. The camera was placed fifty-four inches from the enactment. Two typewriter desks were placed side by side, which left thirty-six inches from center keyboard to center keyboard (see Figure 1). The male or the female student actor was seated at the desk nearest the camera. Action for each vignette was held uniform and only the specified combination of variables was changed. At the beginning of each episode, the teacher was standing ninety inches in the left background of the video frame. The student raised his or her hand signalling the need for assistance and the teacher stepped forward to enact the combination of variables. See Figure 2 for a diagram of the action described in the following example.

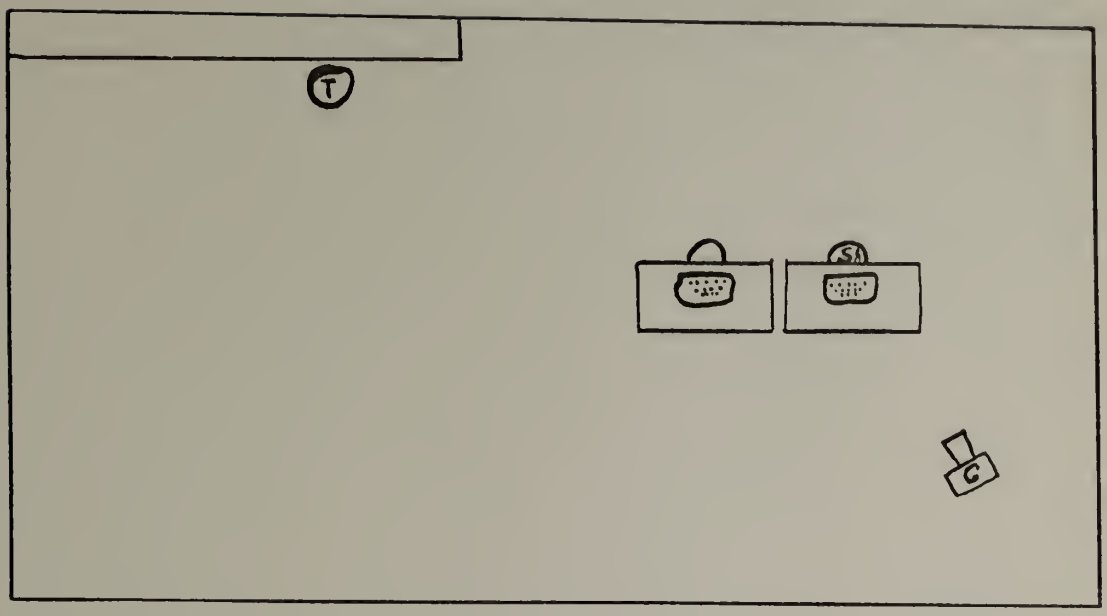


Figure 1. Floor diagram showing permanent position of camera (C) and two typewriters on desks with teacher's (T) position in background, and student (SA) seated at desk nearest camera. Scale $\frac{1}{4}$" = 1'

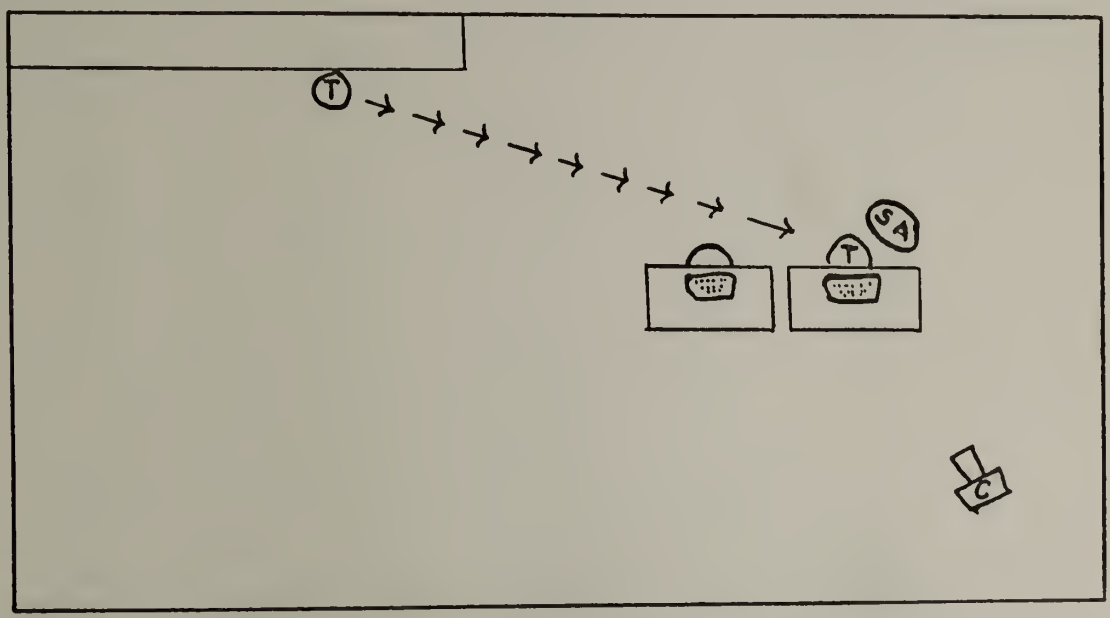


Figure 2. Floor diagram showing permanent position of camera (C) and two typewriters on desks with arrows indicating teacher's movement and student's (SA) position for the vignette combining invasion/eye-contact/touching. Scale $\frac{1}{4}$" = 1'

For example, the first combination of variables photographed was invasion-eye-contact-touching with male actor. When the actor raised his hand, the teacher stepped forward, placed her hand on the back of his chair and nonverbally indicated that he should relinquish his chair; he arose and stood slightly side-profile to the left of the chair and in the right of the vignette. With his hand still on the keyboard, the teacher then sat in his chair and placed her hand on his hand on the typewriter keyboard. The teacher simultaneously gazed upward directly at the student and held this gaze ten to fifteen seconds. The episode ended on that activity. The investigator timed each episode with a stop-watch to be sure that the activity lasted no less than 15 seconds and no more than thirty seconds. In this fashion 32 possible combinations of independent variables were videotaped.

Two experienced classroom teachers observed the filming and judged that the vignette did indeed show what was intended of teacher nonverbal behaviors.

The sequencing pattern used avoided any possible vignette following another in which the variable was the same, i.e., invasion did not follow no invasion. Permutation tables were used to develop the sequencing pattern.

Instrumentation. A Likert-type attitude scale was developed on which subjects were to record their perceptions of the teacher behaviors as they viewed the sixteen silent videotape vignettes. Attitude scales frequently contain some

statements which are favorable toward the object and some unfavorable (Kerlinger, 1964). Of the attitude scales, the Likert-type scale is a set of attitude items, all of which are considered of approximately equal "attitude value," to each of which subjects respond with degrees of agreement or disagreement (intensity). One item is the same as any other item in attitude value. This rating scale allows for the intensity of attitude expression. The main advantage is that greater variation results. When there are five or seven possible categories of response, it is obvious that the response variance should be greater than with only two or three categories as agree, disagree, or no opinion. A disadvantage is that individuals have differential tendencies to use certain types of responses: extreme responses, neutral responses, agree responses, disagree responses. This response variance confounds the attitude variance (Gage, 1963; Kerlinger, 1964).

The item was designed with the following five possible responses:

1. Would hinder me very much.
2. Would hinder me somewhat.
3. Neither helps nor hinders me.
4. Would help me somewhat.
5. Helps me very much.

The subject was to mark only one response for each vignette indicating how effective the teacher would be in helping the student to learn. A 30-second interval was provided during which time each subject made a judgment as to the helpfulness

or non-helpfulness of the teacher behavior and marked his response sheet. The five Likert-type responses permit positive or negative judgments as well as gradations in between. Item design was sought which would allow maximum discrimination among the vignettes viewed by the subjects as well as provide a system which was easily understood by the subjects. The Likert-type item provided the most useful format and was used in the study reported here.

Pilot study. Prior to collecting data for the main study, a pilot study was conducted as a means of validating the effectiveness of the videotaped vignettes, to refine the presentation, and to test the instruments for comprehension and clarity. Subjects in the pilot study were secondary school students similar to the subjects used in the major study. Three changes were made as a result of the pilot study:

1. The black film separating each vignette was shortened to 30 seconds from 45 seconds as adequate for subjects to makr their response sheets.

2. The pace of the investigator's oral instructions to the subjects decelerated. The instruction period was increased from five to eight minutes. Subjects were subsequently asked to "read along" with the investigator during the standardized introduction.

3. A second sheet of instructions was added to explain how each subject was to imagine himself as the student actor in the episode. It provided an example of how they were to mark their responses. It was read aloud

with them while they read silently. Please refer to Appendix A for a copy of the final instructions.

Subjects for the main study. Sixty-four students from a comprehensive regional high school in Western Massachusetts were selected from eighty-nine students enrolled in typewriting. Total enrollment in grades 9 - 12 in the school was 1180. Subjects (32 male and 32 female), were randomly selected from all six typewriting classes.

Subjects ranged in age from 14 to 19 years with the mode at age sixteen and the fewest, two, at age nineteen (see Table 1). However, thirteen subjects left their age black on their response sheets. The mean age of subjects reporting their age was 15.84 years.

TABLE 1

FREQUENCY DISTRIBUTION OF SUBJECTS BY AGE. (N=64)

Age	Number	Percent
14	9	14.0
15	11	17.2
16	19	29.7
17	5	7.8
18	5	7.8
19	2	3.1
No Age Reported	13	20.3
TOTALS	64	100.00

Table 2 shows that sixty-two subjects reported their grade and two did not. Thirty-eight percent were tenth graders. The remaining subjects were about equally divided among the ninth grade (21%), the eleventh grade (23%), and the twelfth grade (18%). The mean grade level of sixty-two subjects reporting was 10.371.

TABLE 2

DISTRIBUTION OF SUBJECTS BY GRADE
SHOWING NUMBER AND PERCENT

Grade	Number	Percent
9	13	20.3
10	24	37.5
11	14	21.9
12	11	17.1
Not Reported	2	3.1
TOTALS	64	100.0

Subjects were also asked to indicate the typewriting course they were taking, Personal or Typewriting I. All typewriting classes were used in the study. Although both Personal Typewriting and Typewriting I had met an equal number of school days and were shown the videotaped presentation the same three days, objectives of the two courses differed. Subjects were equally divided between Personal Typewriting, a one-semester course, and Typewriting I, a two-semester

course, with thirty-one subjects enrolled in each. Two subjects did not report their course enrollment.

The sixteen vignettes were viewed by each subject. The investigator showed the videotape to subjects in their regular classroom situations. The investigator read instructions to each class prior to showing the film. A thirty-second blank film was used to separate each vignette from the next, and during the thirty seconds the subjects marked their response sheets.

Control precautions.

All typewriting classes were utilized, since all typewriting courses in that school are elective and students are therefore somewhat self-selective. For this reason, it cannot be assumed that the population for the final study is a completely random group.

The investigator conducted all the presentations within regular class time. The investigator read standardized instructions aloud and asked subjects to read along silently (refer to Appendix A for a sample of the instructions). No information on the purpose of the study was given to the subjects in the instructions. The videotape portion of the presentation lasted about twenty minutes and the entire presentation lasted approximately thirty-five minutes. Instructions were printed at the beginning of each response sheet. Students were asked not to discuss the presentations until the semester ended. Cooperating teachers were requested not

to discuss the scheduled presentations with any of their classes until after the semester ended. The investigator did not answer questions regarding the presentation other than to assure students they would be supplied an abstract after the study was completed if they wished one. Furthermore, students did not write their names on the response sheets in order to make it conducive to a wide variety of attitudes to be expressed.

Students recorded their responses to the video presentation on an Optical Scanning Corporation Standard Answer Sheet - c (DS1120-C). These response sheets were collected and reviewed for dark markings and the sheets were numbered consecutively to aid processing.

The information from the data sheets was keypunched onto data processing cards. The data cards were then processed through the Research Computing Center at the University of Massachusetts at Amherst, on a Control Data 3600 Computer. Descriptive analyses were completed using the Statistical Package for Social Sciences (Nie, Bent, and Hull, 1970).

Statistical analysis.

The five hypotheses were tested using a three-factor repeated measures analysis of variance design to differentiate the effects of the independent variables upon the subjects' perceptions of teacher nonverbal behaviors in helping or hindering them from learning. The 2^5 factorial analysis

was 2 (Sex) X 2 (Invasion) X 2 (Eye Contact) X 2 (Touch) X 2 (Sex of Actor) X 32 (Subjects). The three repeated factors in the analysis were invasion, eye contact and touch. Between factors analyzed were sex and sex of actor.

The primary purpose of repeated measures on the same elements is the control that this kind of design provides over individual differences between experimental units (Winder, 1962). In order to establish a design which provides control over individual differences between the sex condition and subjects conditions, the analysis of variance with repeated measures was used.

Randomization of administration of the vignettes tended to prevent sequence effects from confounding the results. Thus the sequence effects were distributed over all the treatment conditions: invasion, touching, eye contact, and sex of actor.

The design was composed of three independent variables of teacher behaviors videotaped in all possible combinations: invasion, touching, and eye contact; and two independent variables of sex: sex of student actor videotaped and sex of respondent.

Questionnaire Follow-Up Study

An interview instrument was developed with which to study the feasibility of using the videotape method for teacher training. Personal interviews were designed to test

the practicality of the videotape method for further study and to acquire personalized student reaction to diverse nonverbal teaching behavior. The interview form consisted of twenty questions to guide the interviewer in conducting the interviews. Interview questions were developed around three general sections--a warm-up section of four questions; an affective response section of eleven questions dealing with how the student perceived the nonverbal teacher behaviors as if he were the student actor in the film, i.e., "good" "bad" "like" "bored" as he or she viewed the filmed vignettes; and finally a section of five questions dealing with somewhat open-ended closure-type questions. Specifically, the form delineated three general areas: (1) The personal reactions of individual students regarding the process in which they had just participated; (2) their affective responses to the teacher behaviors they had just viewed (numbers 2-9); and (3) value-level questions relating to their conceptions of the ideal teacher.

Open-ended questions were used to elicit a wide variety of responses from the interviewees. Six differences in their feelings were sought (number 10), student perception was sought as a factor that might be different from those reported on the group questionnaire (numbers 13-14), ideal teacher behaviors were solicited (numbers 11-12), and the fatigue factor in viewing films was taken into account (numbers 15-16).

Possible responses on the interview form were coded to facilitate the interviewer's noting responses while giving the interviewee his full attention. The form was similar to the judging form.

Prior to the subjects viewing the videotapes, response sheets were randomly marked to identify potential interviewees for the feasibility part of this study. Subjects receiving the marked response sheets were identified as the response sheets were given out randomly. Following the marking of the response sheets these subjects were told its meaning before they left the presentation. Of eleven students who received marks on their response sheets indicating they were to become follow-up interviewees, it was possible to schedule interviews with six subjects--three males and three females.

Each interview was sound recorded with the permission of the interviewee. The recordings were judged independently by three judges as to negative or positive verbal responses of the six subjects. The judges were experienced classroom teachers.

CHAPTER IV

ANALYSES OF THE DATA

The problem of student perception of typewriting teacher behavior was introduced in the three preceding chapters, literature related to the problem of teacher nonverbal behavior was reviewed, and methodology for design of the study was explained.

In this chapter, an analysis of subject responses to the sixteen televised teacher-behavior vignettes is reported using a 2^5 factorial design with repeated measures. Interviews with a small number of subjects are also reported.

The nature of the research reported here was an experimental study of first semester typewriting students' perception of variations in typewriting teacher nonverbal behavior.

Results of the study will aid in the development of more effective teachers' pre-service and in-service training by identifying student preferred nonverbal behaviors. In this study, high school students were asked to rate televised vignettes of a number of different teacher nonverbal behaviors as to the extent to which the behaviors assisted them in learning.

Analysis of variance was used to analyze the data and test each hypothesis stated in Chapter III. An alpha level of .05 was used as the criterion for statistical significance of main effects and interactions. The F Test was computed.

Equal numbers of male and female subjects were needed in the cells to conduct the analysis of variance through the computer program BioMed08V (Health Sciences Computing Facility, University of California, Los Angeles, September 1, 1965). Since three males made errors on their response sheets, their response data were removed, leaving thirty-two males in the sample. To arrive at an equal number of female respondents, thirty-two females were randomly selected from the pool of 48 female respondents. Control Data Computer 3600 series were used to execute the program.

Analysis of Variance

Results of the 2^5 factorial analysis of variance with repeated measures on the factors of Invasion, Touching, Eye Contact, Sex of Actor, and Sex of Respondent is presented in Table 3. Table 3 summarizes the findings between subjects and within subjects. The analysis of the main effects and interactions follows.

TABLE 3

ANALYSIS OF VARIANCE SUMMARY

Source of Variation	df	SS	MS	F
Between Subjects	63			
Sex of Subject	1	17.80	17.80	2.86 n.s.
Subjects/Sex	62	385.92	6.22	

TABLE 3--Continued

Source of Variation	df	SS	MS	F
Within Subjects	960			
Invasion	1	2.74	2.74	2.47 n.s.
Invasion X Sex	1	24.07	24.07	21.70 ***
IS X Subjects/Sex	62	68.79	1.11	
Eye Contact	1	4.92	4.92	5.86 *
Eye Contact X Sex	1	.43	.43	<1.00
ES X Ss/Sex	62	51.96	.84	
Touch	1	.43	.43	<1.00
Touch X Sex	1	1.49	1.49	2.19 n.s.
TS X Ss/Sex	62	42.40	.68	
Actor Sex	1	5.20	5.20	12.38 ***
Actor X Sex	1	.82	.82	1.95 n.s.
Actor Sex X Ss/Sex	62	25.79	.42	
Invasion X Eye (IXE)	1	24.07	24.07	25.88 ***
SIE	1	1.98	1.98	2.13 n.s.
IE X Sx/Sex	62	57.51	.93	
I X T	1	7.74	7.74	5.63 *
S X I X T	1	.52	.52	<1.00
IT X Ss/Sex	62	85.31	1.38	
I X A	1	9.19	9.19	10.33 **
SIA	1	1.06	1.06	1.19
IT X Ss/Sex	62	53.31	.89	
E X T	1	.35	.35	<1.00
S X E X T	1	.82	.82	<1.00
ET X Ss/Sex	62	62.89	1.01	
E X A	1	10.36	10.36	12.79 ***
S X E X A	1	1.49	1.49	1.84
EA X Ss/Sex	62	50.22	.81	
T X A	1	.52	.52	<1.00
S X T X A	1	.28	.28	<1.00
TA X Ss/Sex	62	46.26	.75	
I X E X T	1	.61	.61	<1.00
S X E X E X T	1	.02	.02	<1.00
IET X Ss/Sex	62	64.18	1.05	

TABLE 3--Continued

Source of Variation	df	SS	MS	
E X E X A	1	.22	.22	< 1.00
S X E X E X A	1	.35	.35	< 1.00
IEA X Ss/Sex	62	58.74	.95	
I X T X A	1	1.49	1.49	2.66 n.s.
S X I X T X A	1	.02	.02	
ITA X Ss/Sex	62	34.80	.56	
E X T X A	1	9.19	9.19	9.10 **
S X E X T X A	1	.82	.82	< 1.00
ETA X Ss/Sex	62	62.80	1.01	
I X E X T X A	1	.05	.05	< 1.00
S X I X E X T X A	1	1.49	1.49	2.19 n.s.
IETA X Ss/Sex	62	42.03	.68	

* P < .05
** P < .01
*** P < .001

Invasion. Hypothesis 1 was stated as follows: There will be no significant differences in responses of subjects on an attitude scale after viewing two 30-second televised episodes illustrating two variations of physical distance between a teacher and a student. The two variations or conditions of physical distance were invasion, in which the teacher sat in the student actor's own chair and no invasion, in which the teacher sat in a second chair.

No statistically significant differences were observed in student ratings between levels of invasion when the data were analyzed. Hypothesis 1 stated in the null form, was not rejected.

The cell means for invasion, as observed in Figure 3 of all subjects was 2.50 for Invasion and 2.40 for No Invasion. Invasion was not reflected here in the data as being significant until having interaction with other factors.

Figure 3

Cell Means for Main Effects

Main Effects	(Mean)	(Difference)
Sex		
Condition 1 (Male Respondents)	2.58	
Condition 2 (Female Respondents)	2.32	.26
Invasion		
Condition 1 (Invasion)	2.50	
Condition 2 (No Invasion)	2.40	.10
Eye Contact		
Condition 1 (Eye Contact)	2.38	
Condition 2 (No Eye Contact)	2.52	.14
Touch		
Condition 1 (Touch)	2.43	
Condition 2 (No Touch)	2.47	.04
Actor		
Male Actor	2.38	
Female Actor	2.52	.14

Touch. Hypothesis 2 was stated as follows: There will be no significant differences in responses of subjects on an attitude scale after viewing two 30-second televised episodes illustrating two variations of the teacher touching a student.

Touch was depicted by having the teacher touch the hands of the student actor, and the teacher did not touch the hands of the student actor in the second variation. There was no statistically significant difference in how or where she touched them.

No statistically significant differences were observed between the two variations of touch. Hypothesis 2 stated in the null form was not rejected. It did become significant at the .05 level when combined with invasion.

The mean for all subjects on the five-point attitude scale shown in Figure 3 was 2.43 for the touching condition and 2.47 for the no-touching condition.

Eye Contact. Hypothesis 3 was stated as follows: There will be no significant differences in responses of subjects on an attitude scale after viewing two 30-second televised episodes illustrating two variations of eye contact between a teacher and student. In all vignettes showing eye contact, the teacher held the eyes of the student actor for a gaze lasting 10-15 seconds whether or not helping the student to typewrite. In all vignettes showing no eye contact, the teacher did not look at the student actor at all.

Student ratings for eye contact were statistically significant at the .05 level as shown in Table 3, the Analysis of Variance Summary. The null hypotheses was rejected based upon the analysis of data in this study. Eye contact was negatively perceived.

The cell means shown in Figure 3 showed an average of 2.38 by all subjects on the five-point attitude scale for eye contact--eye contact was negative--and 2.52 for no eye contact. No eye contact was preferred as shown by the cell means.

Following the ratings of all vignettes, students who were interviewed commented negatively about the teacher's fixed-eye stare.

Sex. Hypothesis 4 was stated as follows: Subjects, upon viewing sixteen televised episodes illustrating teacher non-verbal behavior, will not differ significantly in their responses because of their sex.

The between subjects main effect, sex, was not statistically significant. The null hypothesis was not rejected based upon the data gathered and analyzed for the purposes of this study.

Sex of Actor. Hypothesis 5 was stated in the null form as follows: Subjects will not differ significantly in their reactions to televised episodes involving a female student actor with a female teacher than they will to episodes involving a male student actor with a female teacher. In Table 3, this main effect is shown as "Actor Sex" and by A to denote "Actor Sex." Eight of the sixteen televised vignettes were depicted with a male student actor and eight with a female student actor, all with a female teacher.

Data gathered on student perception indicated that sex of actor was statistically significant at the .001 level. Based upon the data gathered and analyzed for the purposes of this study, the null hypothesis is rejected.

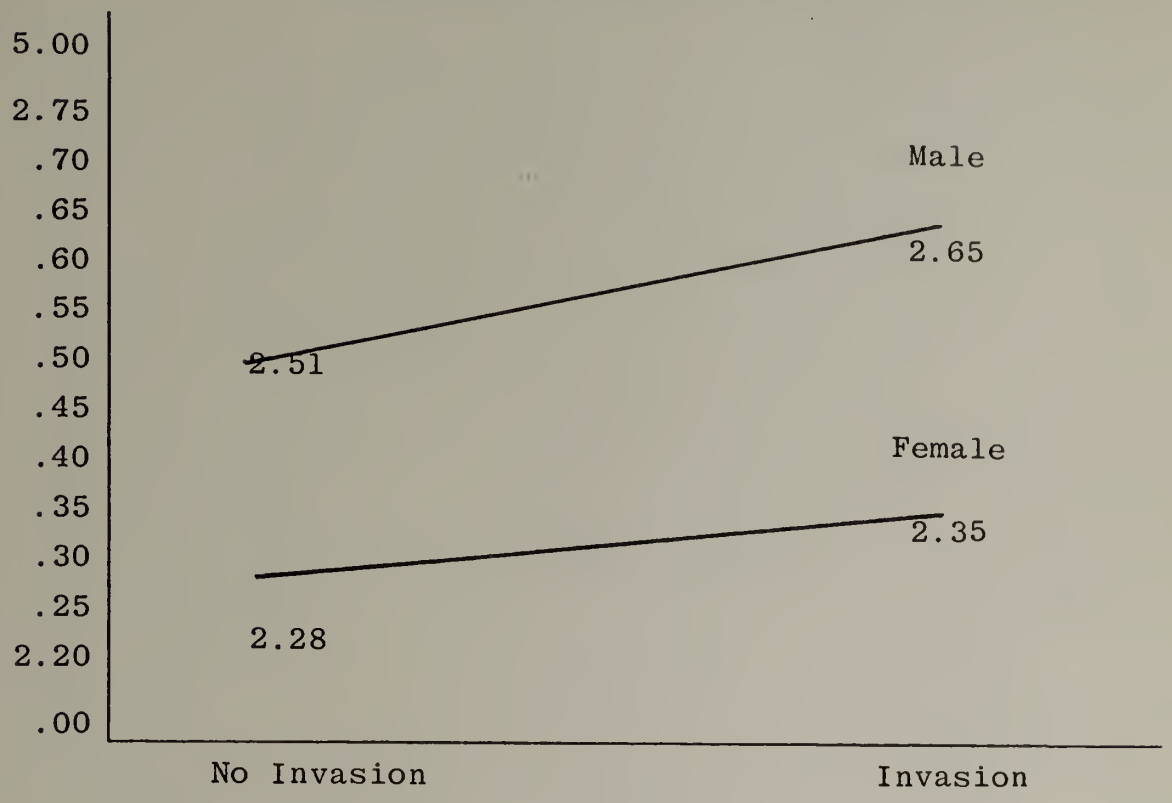
The mean response of all subjects when both the student actor and the teacher were female was 2.52. When the student actor was male while the teacher remained female throughout all episodes, the mean response was 2.38 as shown in Table 4. Means were .14 less negative on the female-actor vignettes for all respondents than for the male-actor vignettes.

Interactions. As can be seen in Table 3, five second-order interactions were statistically significant. One third-order interaction was statistically significant.

The Invasion by Sex interaction (I X S) shown in Figure 4 was significant at the .01 level. Inspection of Figure 4 reveals that male respondents rated both invasion conditions higher on the attitude scale than did female respondents. The figure shows that both males and females perceived the teacher's helpfulness greater in the invasion condition than in the no-invasion condition. However, males were less negative in their responses under both conditions. There is no interaction between males and females in their responses, although males have the strongest perception of being helped under both conditions.

The Invasion by Eye Contact interaction shown in Figure 5 was significant at the .001 level. Inspection of Figure 5

Figure 4. Interaction Illustrating Invasion/No Invasion and Male/Female Sex of Subject.*

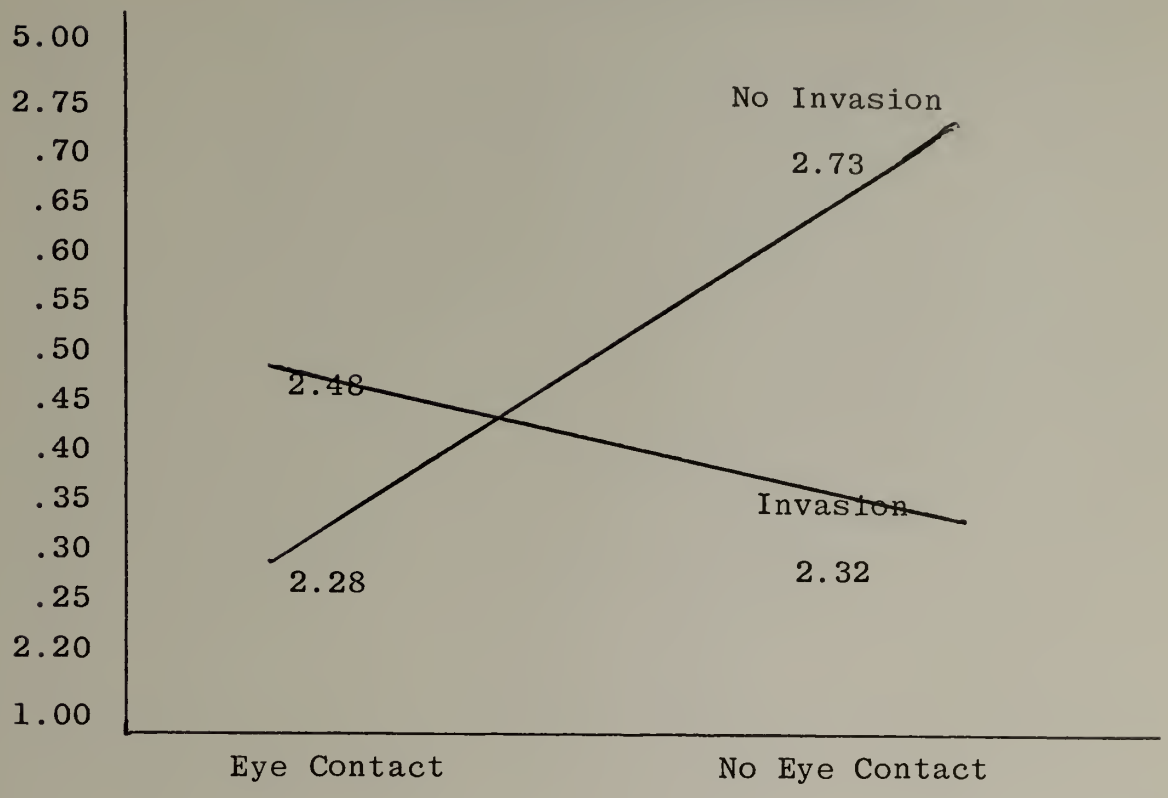


* See Analysis of Variance Summary

reveals that respondents rated invasion more positively on the attitude scale when eye contact was present. When there was no eye contact, the trend was reversed with no invasion recorded as slightly more positive than the invasion perception had been when the eye contact was present.

Figure 6 illustrates the Invasion by Touch interaction. This interaction was statistically significant at the .05 level. Although the differences are small, when touch is present, the mean difference is .28 higher for invasion than for no invasion. When touch was not present, the trend was

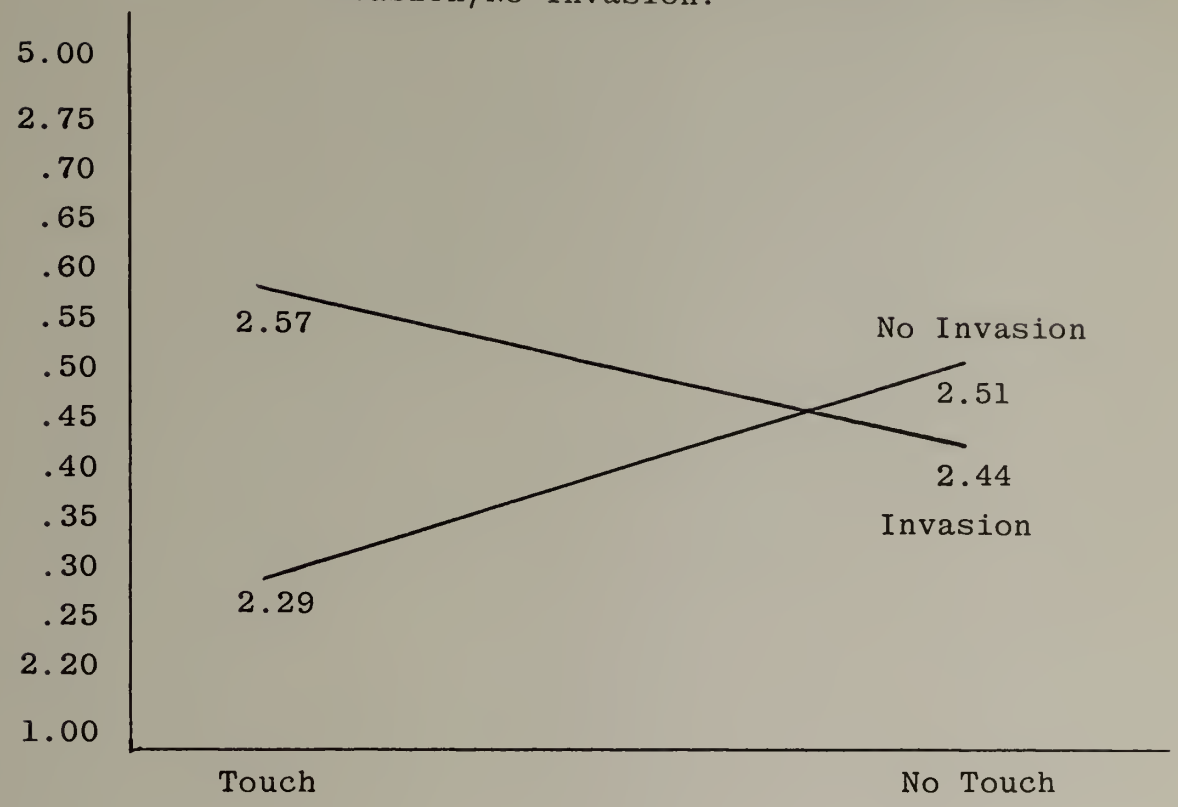
Figure 5. Interaction Illustrating Eye Contact/No Eye Contact and Invasion/No Invasion.



reversed and no invasion was higher by .07 mean difference than invasion.

The interaction between conditions of invasion and sex of student actor are pictorially presented in Figure 7. This interaction effect was statistically significant beyond the .001 level. It appeared from viewing the figure that students perceived a female teacher's invasion by sitting in a female student's chair more acceptable than a female teacher's invasion in a male student's chair as can be seen in the figure in which the Invasion line is fairly stable but the no invasion line takes a sharp upward slant between male and

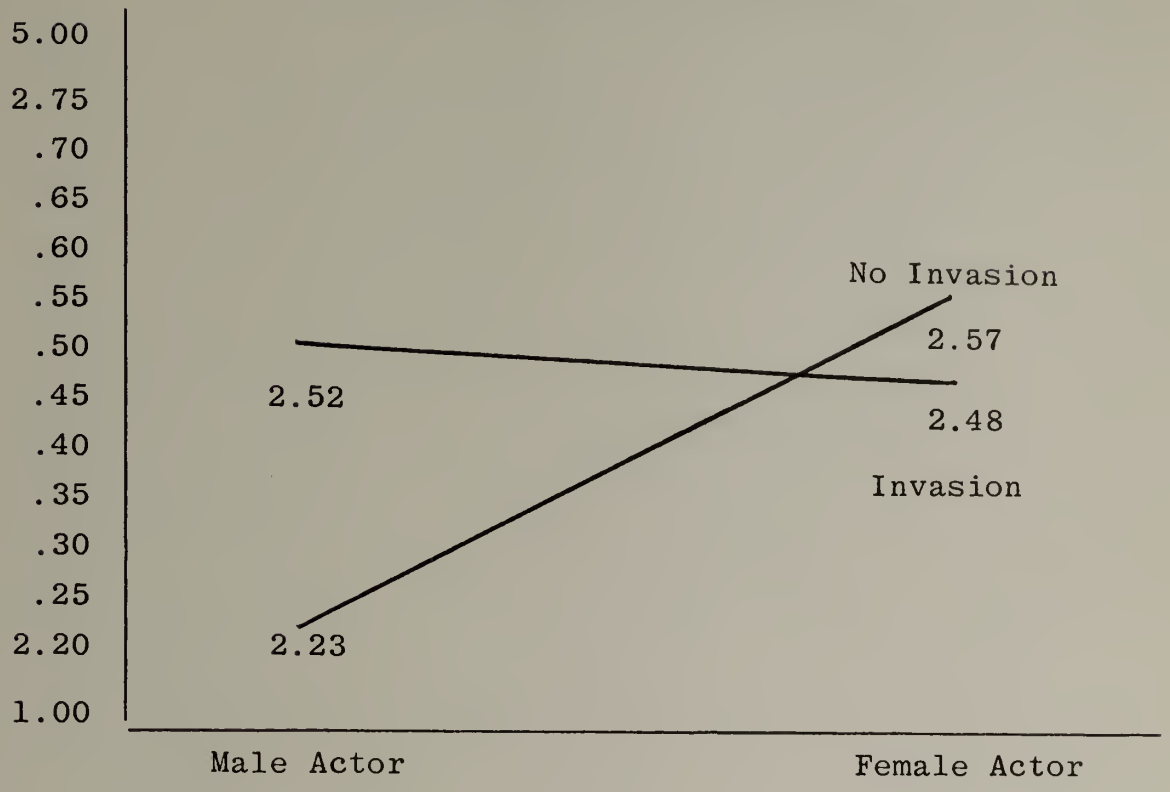
Figure 6. Interaction Illustrating Touch/No Touch and Invasion/No Invasion.



female actor and intersects the invasion line. Mean differences for the two variations of invasion with a female actor's chair were only .09. However, the differences were greater with a male's chair. The trend on no invasion between male actor and female actor was sharply reversed.

The interaction between conditions of eye contact and sex of student actor are pictorially presented in Figure 8. This interaction effect was statistically significant beyond the .001 level. Apparently, eye contact of a female teacher and a female student actor was perceived to be more

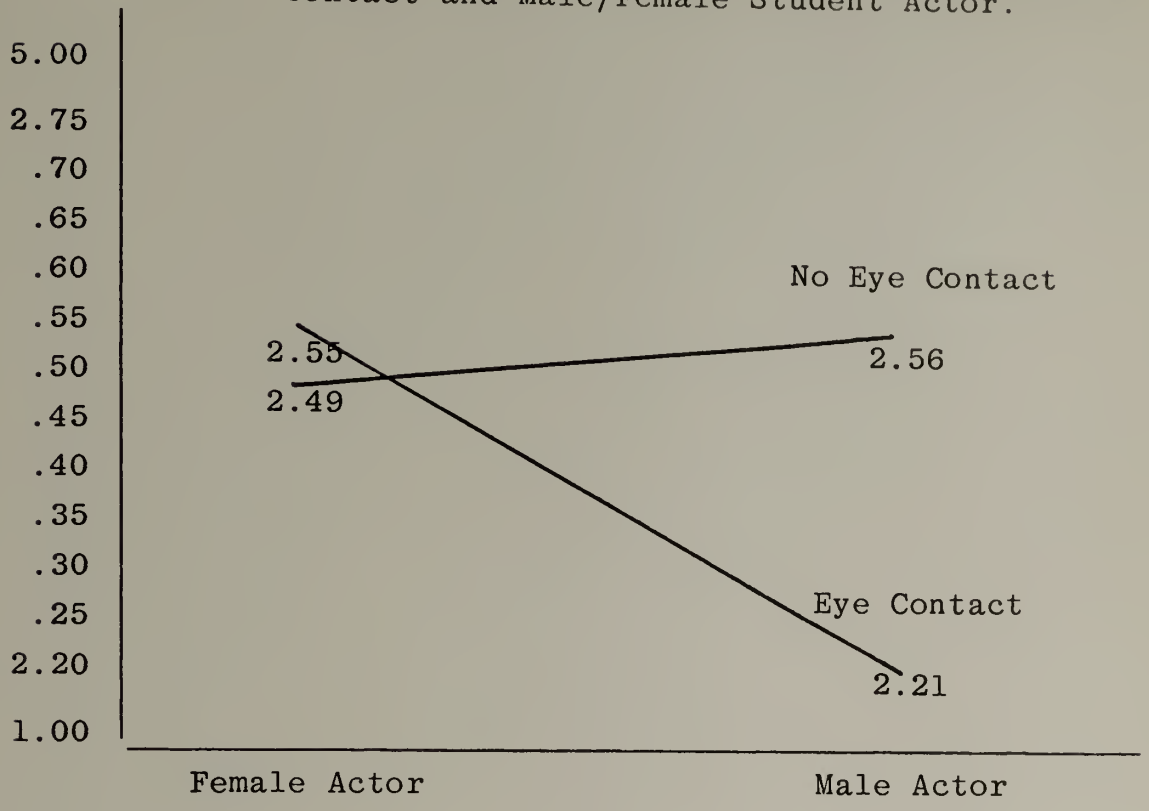
Figure 7. Interaction Illustrating Male/Female Student Actor and Invasion/No Invasion.



acceptable to the subjects than eye contact of a female teacher with a male student actor. The eye contact interaction with sex of actor revealed a .34 mean difference (more positive) between eye contact female actor (2.55) and eye contact male actor (2.21). However, as can be seen in Figure 8 the no-eye-contact attitude response changed only .07, reversing the trend between the two sex variations.

Figures 9 and 10 are diagrammatic illustrations of the three-way interaction, eye Contact/Touching/and Sex of Actor. This three-way interaction was statistically significant at the .01 level.

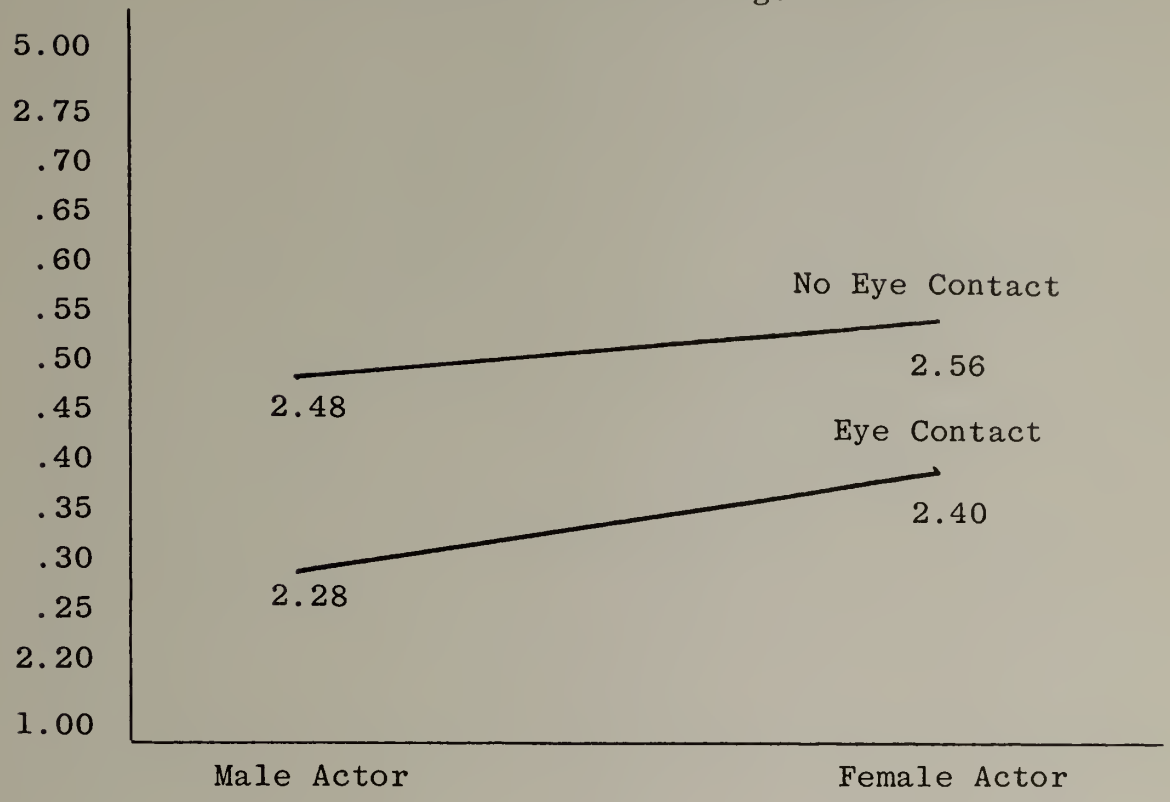
Figure 8. Interaction Illustrating Eye Contact/No Eye Contact and Male/Female Student Actor.



When the teacher was depicted touching the student actors, subjects responded in a parallel or tandem manner although they rated Eye Contact as slightly less helpful for them to learn than No Eye Contact. It is noteworthy that No Eye Contact was perceived as being more helpful to learn, whether the student actor in the videotaped vignettes was male or female.

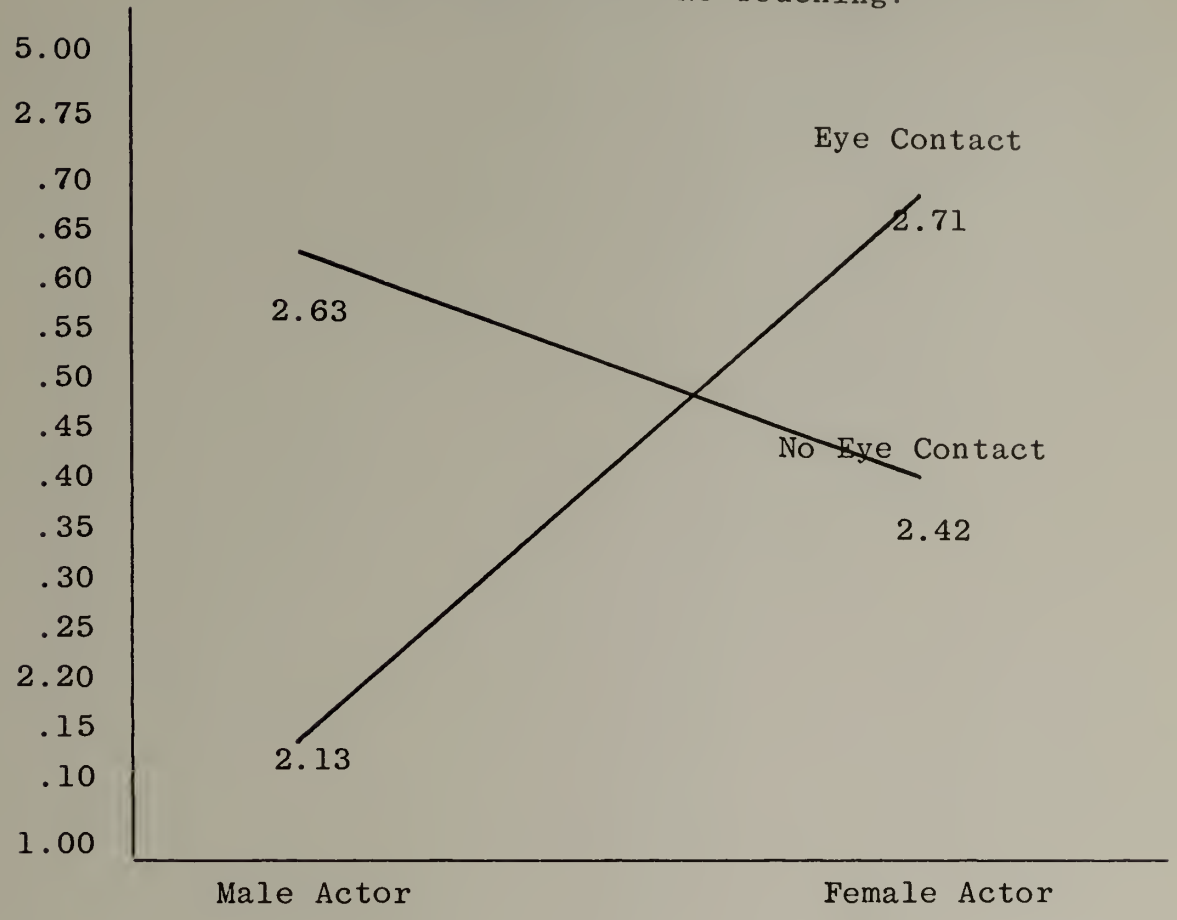
Figure 10 indicates the second condition of the Eye Contact/student actor/touching interaction in which the teacher did not touch the student actors. In the No-Touch

Figure 9. Interaction Illustrating Eye Contact/No Eye Contact and Male Actor/Female Actor Under the Condition of Touching.



portion of the interaction, Eye Contact student perception took a decided change. Subjects regarded no eye contact as more helping when the actor was male. However, when the actor was female (the teacher also was female) the eye contact was decidedly favored, rising sharper and higher than it did for no eye contact on the attitude scale from 2.13 to 2.71.

Figure 10. Interaction Showing Eye Contact/No Eye Contact and Male Actor/Female Actor Under the Condition of No Touching.



Interviews

Live student subject interviews were conducted to obtain personalized data with which to study the feasibility of the videotape method for teacher training. This case analysis approach added a wider dimension to the data collected from groups. Interviews were validation instruments for the data collected in the response sheets. They served as a reality buffer to test the utilization of the vignettes and were effective in identifying contaminating variables and

searching out student opinions of the videotape process. Questions were delineated in three areas: Personal reactions to the process, affective responses to the teacher behaviors, and value level questions relating to students' conceptions of the ideal teacher.

Three female and three male student subjects were interviewed. The first question asked them was, "Is it alright with you if we tape record this interview?" Five permitted recording their interview and one refused recording. Some interviewees were more negative than positive on all questions (Ryans, 1960).

Three persons from the education profession, two males and one female, judged the recordings to ascertain negative and positive responses of subjects. The judges (Ryans, 1960) were given uniform instructions and a rate sheet on which they were asked to rate the response to each question as being "positive", "neutral," or "negative." They were also asked to record any comments or responses they thought were unusual or unique.

Judges' rating of the five recorded interview responses were mixed--apparently it is difficult to determine from spoken word just what the real feeling is.

Unique or unusual interviewee comments have been compiled in Appendix C for each interview question. Students very seldom agreed on any question--some were generally more negative on all questions. The sixth interviewee, whose

TABLE 4

INTERVIEWEES' PERCEPTIONS OF THE VIDEOTAPED VIGNETTES

Question	Student	Positive	Neutral	Negative	No Response	Consistency of Judges
1. "What was your personal reaction to the process you have just seen?"	1	1	1	1		-
	2	1	1	1		-
	3	3				3/3
	4	1	1	1		-
	5	3				3/3
	6			1		1/1
2. "What was your personal reaction to the teaching behavior as viewed on the film?"	1			2		2/3
	2		2	1		2/3
	3	2		1		2/3
	4			3		3/3
	5	1		2		2/3
	6			1		1/1
3. "What did you think the teacher was doing?"	1	1				-
	2			2		2/3
	3				X	-
	4			1		-
	5				X	-
	6				X	-

TABLE 4--Continued

Question	Student	Positive	Neutral	Negative	No Response	Consistency of Judges
4. "What did you see the teacher doing that would make you feel good in the class?"	1				X	-
	2			2		2/3
	3	1				-
	4			1	-	
	5	1				-
	6				1	1/1
5. "What did you see the teacher doing that would make you feel bad in the class?"	1		1	1		-
	2		1	1		-
	3	1				-
	4			1		-
	5			1		-
	6			1		1/1
6. "Were there any sequences in the film that you thought were the same, or almost the same?"	1				1	-
	2	1	1			-
	3	2				2/3
	4	1		1		-
	5			2		2/3
	6	1				1/1
7. "What did you feel in vignette number 1 when the teacher was looking directly into your eyes?"	1				1	-
	2	2		1		2/3
	3	1		2		2/3
	4		1	2		2/3
	5	1		2		2/3
	6				1	-

TABLE 4--Continued

Question	Student	Positive	Neutral	Negative	No Response	Consistency of Judges
8. "How did you react to the scene of the teacher touching the student?"	1	1				-
	2	1	1	1		-
	3	1		2		2/3
	4		1	2		2/3
	5			3		3/3
	6			1		1/1
9. "How did you feel when the teacher sat in the student's chair?"	1			2		2/3
	2			3		3/3
	3	1		2		2/3
	4		3			3/3
	5			2		2/3
	6				1	-
10. "Would you have felt differently if this had been a male teacher?"	1	2	1			2/3
	2		1			-
	3	3				3/3
	4		2	1		2/3
	5	1		2		2/3
	6			1		1/1
11. "What actions of the teacher did you see that you did not like?"	1			1		-
	2			3		3/3
	3	1		2		2/3
	4			3		3/3
	5		1			-
	6			-		1/1

TABLE 4--Continued

Question	Student	Positive	Neutral	Negative	No Response	Consistency of Judges
12. "Did the sort of things the teacher was doing make you like her behavior as a teacher?"	1				1	-
	2	3				3/3
	3	2	1			2/3
	4	3				3/3
	5	3				3/3
	6				1	-
13. "What similarities did you see in the vignettes?"	1	1				-
	2		1	1		-
	3	1	1	1		-
	4	1	1			-
	5	1	2			2/3
	6			1		1/1
14. "Did you feel bored viewing the films and checking off the questionnaire?"	1	1	1			-
	2	1		2		2/3
	3	2				2/3
	4			2		2/3
	5	1	1			-
	6	1				1/1
15. "Did you feel at the end as you did in the beginning?"	1				1	-
	2	2	1			2/3
	3	3				3/3
	4		1	1		-
	5	1	1	1		-
	6			1		1/1

TABLE 4--Continued

Question	Student	Positive	Neutral	Negative	No Response	Consistency of Judges
16. "What changes would you make in the presentation?"	1			1		-
	2	1		2		2/3
	3		1	1		-
	4	2				2/3
	5	3				3/3
	6			1		1/1
17. "What did you think the study was about?"	1				1	-
	2	2	1			2/3
	3				1	-
	4	2				2/3
	5				1	-
	6			1		1/1

request to be not recorded, was tabulated from the interviewer's notes made during and immediately following the interview. The sixth interviewee was generally negative in all comments and responses.

When two out of three judges agreed on the direction of the student response as either positive, neutral, or negative, a fraction showing 2/3 or 3/3 was recorded in the tables under the "Consistency of Judges" heading. Unless a 2/3 or 3/3 agreement was reached, a dash was recorded except for student six. It will be recalled that student six wished not to be recorded and therefore, only the interviewer's judgment was recorded as a fraction 1/1.

To Question number one, "What was your personal reaction to the process you have just seen?" judges rated student three and five as positive. Judges' ratings of students one, two, and four were equally divided between positive, neutral, and negative replies. The interviewer determined that student six replied negative.

The interviewees generally felt more positive to the process of viewing televised teacher behavior to give their personal perceptions.

Question two was posed as "What was your personal reaction to the teaching behavior as viewed on the film?" Two judges rated the recording of student one as responding negatively, two rated student two as neutral and one rated that student negative. Two judges rated student three as replying

positively and one as negatively. All three judges agreed that student four replied negatively. Judges were divided in their judgment of student five in that one judged the reply as positive and two judged it as negative. The interviewer believed student six responded negatively.

The interviewees generally felt more negative than positive in their personal reaction to the teaching behavior viewed on the film. All interviewees responded to the question.

The comments made by subjects indicated that the student needs participation and that the student prefers to work out his or her own problems. Please refer to Appendix C.

Question three was, "What did you think the teacher was doing?" No responses were gained from two interviewees. Student one responded positively and students two, four, and six responded negatively. Two students commented that they couldn't tell what the teacher was doing but one qualified this with the statement that what the teacher was doing may have been not beneficial to the student. The student who replied positively thought the teacher was helping the student. Response to the question was not clear-cut nor strong.

When asked what they saw the teacher doing that would make them feel good, student comments were recorded by judges while the positive to negative rating was not recorded to much extent. Student comments to Question four covered a wide positive to negative range.

Two judges recorded comments rather than ratings on Question five. One judge attempted to rate student response. That judge thought four students were negative and one student was positive in their replies.

Two judges agreed that student three was positive and that student five was negative to Question six, "Were there any sequences in the film that you thought were the same or almost the same?" Results of this interview question indicate the difficulty in isolating and filming variables and combinations of variables.

Judges were not agreed on interviewee responses to Question seven, "What did you feel in Vignette Number 1 when the Teacher was looking directly into your eyes?" Five choices were available to guide the judge from "completely at ease" to "embarrassed--wanted her to look away."

Student two was judged having a positive response by two interview judges and as having a negative response by one judge. The response of student three was judged positive by one rater and negative by two raters. Student four was rated neutral by one judge and negative by two judges. Student five was rated positive by one judge and negative by two judges.

Interviewees' negative responses were stronger than positive responses to the vignette depicting direct gaze.

Question eight asked by the interviewer was, "How did you react to the scene of the teacher touching the student?"

Judges agreed that student five was negative in reaction.

As can be seen in Table 4 interviewees were more negative than positive and students gave both positive and negative responses. One judge recorded student four as "embarrassed" by teacher's direct gaze. Student six, who did not wish to have the interview recorded, used the term "embarrassed."

Interviewees were asked in Question nine, "How did you feel when the teacher sat in the students' chair?" Students were judged negative except one student who was judged neutral to this question. Their comments (see Appendix C) add impact to their reactions.

Reactions of interviewees were almost equally divided between positive, neutral and negative on Question ten. They were asked, "Would you have felt differently if this had been a male teacher?" Their comments were fewer than for other questions and were divided in opinion.

Question eleven directed students to a negative aspect depicted by the televised vignettes and consequently a generally negative response was adjudged. Comments elicited enumerate the particular behaviors the interviewees recalled that they did not like. Refer to Appendix C.

Question twelve, "Did the sort of things the teacher was doing make you like her behavior as a teacher?" resulted in an overwhelmingly positive judgment with no negative judgments.

Responses were judged to be about equally divided between positive and neutral on Question thirteen. The question asked interviewees what similarities they saw in the vignettes. Their comments were fewer than in previous questions, which may indicate that the fatigue factor was setting into the interview or it may indicate that the interviewees had already named most of their reactions in previous questions.

Interviewees were judged to be divided in their response to Question fourteen, "Did you feel bored viewing the films and checking off the questionnaires?" Their comments indicate discrimination surrounding the word, "bored," ranging from "not entertaining" to "It lost some of its potential."

Question fifteen asked the interviewees if they felt at the end as they did at the beginning of the televised presentation. They were judged to feel slightly more positive than neutral or negative in their responses, or that they felt at the end as they did at the beginning. Only two comments were recorded.

Although judges felt that interviewees were split between positive and negative responses to Question sixteen, "What changes would you make in the presentation?" Students would have shortened the presentation. Refer to Appendix C for interviewees' specific suggestions for changes.

On Question seventeen, judges were unable to record judgment of responses on three (half) of the interviewees.

Responses by the remaining half were more positive than negative. Interviewees perceived that the study was about teaching methods and typing techniques. Students are aware of teaching methodology and can make positive, helpful suggestions toward improving various teaching activities. Teachers can entrust students with their will to improve their teaching behavior.

The final Question, number 18 directed to interviewees asked for their class and the category of typing credit course in which they were enrolled. Two interviewees were tenth graders. One was eleventh grade, and three were twelfth graders. Three were enrolled in Personal Typewriting, a one-semester course, and three were enrolled in Typing I, a two-semester course.

The final question was designed as a closure-type question and was not intended to elicit interviewee comments. However, two students made comments. One asked, "Why are you doing this?" and one commented, "Questions on 'Body Language' interesting."

Figure 11. Interviewees' Grade Level and Typewriting Course.

Student	Grade Level	Typing I	Personal Typing
1	12		X
2	10	X	
3	11		X
4	12		X
5	12	X	
6	10	X	

Chapter V will consist of a discussion of the results, a drawing of conclusions, and suggest implications based on findings from the study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The primary purpose of this study was to investigate student perception of teacher nonverbal behaviors in a typewriting classroom. Teachers in preservice and in in-service training receive much instruction on the verbal communication skills of teaching, but nonverbal communication training has remained relatively untouched.

Results only in the narrow sense refer to the analysis and interpretation of this study. But in the broader sense, by comparing results and inferences within the data to theory and other research results, the writer compares one's own data to the demands and expectations of theory (Kerlinger, 1967).

In the past two decades, social and behavioral scientists have undertaken the study of nonverbal communication. Educators need to be concerned with nonverbal communication because of the potential this area has for improving the skills of teaching and learning (Carr, 1936; Gage, 1963; Hall, 1966; Sommer, 1969; Fast, 1970; Birdwhistell, 1970).

Specifically, this study sought to investigate how students perceived they were being helped to learn by the teacher's physical nearness, by the teacher's physical contact, and by the teacher's eye contact with them. These conditions

were varied and interaction effects were measured. Sex differences were also studied.

Secondarily, interview data were collected to investigate student comments about the effectiveness of using videotape recordings to measure their perceptions and for teacher training in nonverbal behaviors.

Findings and Conclusions from Experimental Data

Invasion. Findings revealed that invasion was not reflected in the data as being significant until having interaction with other factors. Students did not perceive a significant difference between having the teacher sit in a chair within 36 inches of them or having the teacher sit in their own chair while they stood close by as being helpful to them to learn.

Teachers are separated from their students not only by traditional role but also by the student's private space. Invasion of a student's private space by a teacher is a very complex action because, when invasion is combined with other nonverbal teacher behaviors, it does appear to influence student perceptions at a statistically significant level. Classrooms may be considered public space (Hall, 1966; Leibman, 1970) and are divided into a number of private territories or private spaces within a public space when claimed by individual students. If others impinge upon the private space of any one of the individuals involved, they have "invaded."

In this study, students' sex made a significant difference (.01) in their attitudes about invasion. Specifically, in helping them to learn, males rated higher both having a female teacher sit next to them and sit in their own chair than females did. However, girls when asked to imagine that they were the student acting in the vignette, appeared to be less hindered by the female teacher's sitting in their chair than boys did. Students seemed to feel, when it came to a student's private space, more positive for a female teacher to sit in a female student's chair but they did not feel it was appropriate for a female teacher to sit in a male student's chair. Along the same line, Willis (1966) found women stood closer to the person they were speaking to than men did. Leibman (1970) concluded that sex was an influence in her study of intrusion of personal space. She found that "females intrude upon the personal space of other females more than upon personal space of males, and females sat significantly closer to females than for males." Furthermore, she found that intrusion will be avoided whenever an empty seat is available.

Sommer (1969) studied seating patterns and concluded that knowledge of how groups arrange themselves can assist in fostering or discouraging relationships.

Invasion of persons' territoriality in social, personal, and private spaces has been under study for some time (Hall, 1959, 1966; Birdwhistell, 1960; Sommer, 1969; Fast, 1960; and

Haase and Markey, 1972). Classroom space, considered public, may be divided into spaces claimed by each student and by the teacher so that the territory becomes a number of private spaces within a public space. If others impinge upon the private space of any one of the individuals involved, they have "invaded." Teachers are separated from their students not only by traditional role but also by the student's private space. This seems to have been reflected in the results of this study.

Touching. The teacher touching or not touching the hands of the student actor made no difference at all. But when the teacher sat in the student's chair, subjects significantly preferred (.05) the vignettes in which she touched the hand of the student actor.

If the teacher sat in a chair next to the student actors, subjects preferred her not to touch.

However, average subjects' attitudes were somewhat negative to the touch/invasion factors. This means as a general thing that they felt, on an average, that the two combinations of the two factors, touch/no touch and invasion/no invasion hindered them somewhat from learning. Touch was then generally in fact a negative factor.

Touch is an aspect of interaction that has been promulgated as a positive helping activity to pre-service and in-service teachers (Gage, 1963; Montagu, 1971). Touching the hands of the student typist for finger position was the

teacher behavior utilized in this study to obtain student perception of the activity helping them to learn. Results of this study appear to indicate that the combination of touching student hands and invading their space should be used cautiously. In combination with other nonverbal behaviors, touching may be perceived by students as a hindrance to learning. These findings, that students like the teacher to touch their hands if she's sitting in their chair but not to if she's sitting nearby have practical significance in light of teacher practices such as "guiding the hand of the learner" (Gage, 1963).

Sommer (1969) reported defensive gestures, shifts in posture, and attempts to move away. The student will not be in an optimum learning set if the teacher ignores these. Perhaps in the non-invasion enactment, students saw the teacher as an impersonal acquaintance (Fast, 1970) and would not want to be touched, whereas in the enactment where the teacher sat in the student actor's chair, students saw the teacher as a personal friend (Sommer, 1969) and thus accepted the teacher's touching. Nevertheless, student responses averaged "hinders me somewhat."

Although the general pattern in teaching is to touch your students, touch was in fact negative and contrary to the advice normally given in teacher training.

Eye Contact. There was a significant main effect of student perception of eye contact--they saw no eye contact as helping

them to learn more than eye contact, although both variations of the factor were below the neutral perception--neither helps nor hinders me. The analysis of variance summary indicated the eye contact main effect was statistically significant at the .05 level, but the cell means indicated that no eye contact with an average response of 2.52 was most preferred by subjects.

Furthermore, when the eye contact variable was combined with invasion, students saw significantly the combination of no eye contact and no invasion as more helpful to learning (.001) than the combination of eye contact and invasion. This means that students preferred the teacher not to sit in the student actor's chair and not to look or gaze directly into the student actor's eyes in the learning situation videotaped.

In addition, when subjects' responses to the variables, eye contact and the sex of the student actor, subjects reacted (.001) strongly to the combination of male actor and no eye contact condition. Students perceived that eye contact of a female teacher and a female student actor was more acceptable than eye contact of a female teacher and a male student actor. It would seem that all subjects perceived that the female teacher and a female student actor holding a gaze to help the student learn is preferred. This conclusion upholds findings by other researchers.

The data indicate that eye contact is a potent behavior in a teaching-learning situation. It is known that gaze (Fast, 1970; Willis, 1966; Kelly, 1971; and Exline, 1971) varies subtly with a number of different variables including sex, age, geographic location, social interaction, and distance in the room between interacters. These findings were verified by the study reported here. The present study showed that eye contact was favored when the student-actor was a female but was distinctly disfavored with a male student-actor. Exline's (1971) studies of visual behavior reported similar results on all indices of visual behavior, including more visual activity between women than between men or men and women.

Exline (1971) studied the legitimacy of visual monitoring. He found that the level of visual monitoring was significantly higher in legitimate situations. IE: The classroom is a setting in which visual monitoring by the teacher is legitimate, a legitimate role activity. In the classroom, therefore, the amount of visual monitoring can be quite high and remain comfortable to the participants. In the complex combination of variables including eye contact in this study, the female teacher was using eye contact in a legitimate but very intimate fashion on a one-to-one basis. The female teacher using eye contact had a "staring quality" in the videotaped vignettes which showed the whites of her eyes in the film and the gaze lasted more than 15 seconds. The gaze

lasted considerably longer than the glancing intermittent gaze of daily exchange and apparently longer than is comfortable to subjects. Subjects, then, in responding more positively to the no-eye-contact condition were apparently negatively swayed by the long and staring gaze in the vignettes more than the intimacy involved. And the teacher may be more effective when looking at student's hands or work rather than gazing directly into the student's face.

Eye contact, when further combined with two other variables, resulted in a significant (.01) interaction of touch and student actor. No eye contact was perceived as being more helpful to learn, for both male and female actors when the teacher touched the student actors. When the no-touch variation was shown, subjects regarded no eye contact as more helping when the actor was male; but when the actor was female, eye contact was decidedly favored. Therefore, no eye contact was favored when the actor was male and when the teacher touched both sexes of actor. Eye contact was favored when the actor was female and the teacher was not touching. Again this is contrary to findings reported by Haase and Tepper who found that high levels of verbal empathy can be reduced to nonempathetic messages when the communicator utters the message without eye-contact.

Exline (1971) found that listeners gave more visual attention to another than speakers, and mutual glances were relatively rare in task-oriented discussions. In the study

reported here, the vignettes are silent although subjects were instructed to imagine they were the student actor and the instructional set is task-oriented--learning typewriting. Therefore, findings in this study tend to agree with Exline's findings where in this study, the student actor would be doing more of the looking as the teacher is demonstrating; and there is less looking in a task-oriented situation.

Sex. Students did not, as hypothesized, react at a statistically significant difference whether they were male or female when they viewed the 16 videotaped vignettes. However, males' average responses were slightly less negative than females overall.

Sex of Actor. When the sex of the student actor was combined with invasion by the female teacher, the students' response was statistically significant at the .001 level of confidence. Apparently, students perceived a female teacher's invasion by sitting in a female student's chair more acceptable than a female teacher's invasion in a male student's chair. This finding has been supported by Mehrabian (1968) and Leibman (1970) in which they reported that females sat significantly closer to their female friends to converse than males stood to converse with their male friends. Therefore, it may be concluded that females can be predicted to feel more positive toward a teacher's invasion of a female's chair than males would. The teacher would be wise to observe male and female preferences to teacher invasion.

Post-Experimental Interview Findings

Besides the statistical analysis of data, the results of post-experiment interview findings with a random selection of subjects is also of importance in determining the credibility of students' responses. A summary of these findings is reported as follows:

The interviewees felt more positive than negative to the videotape-presentation as a process. They liked the videotape method of evaluating teacher behavior.

The interviewees felt more negative than positive in their personal reaction to the teaching behaviors viewed on the film. This generally negative response was upheld by the statistical analysis of the main effects in which student ratings on all five of the main effects averaged less than the neutral response, "neither helps nor hinders me."

Students interviewed believed that the following activities a teacher does would make them feel more productive in class: sitting next to student, responding to a student's raised hand, and showing student what he wanted to be shown.

Students believed that the following teacher activities would make them feel non-productive in class: looking directly at the student, taking the student's place in typing chair, turning back to the student, and putting hand on the keyboard instead of the student putting his or her hand on the keyboard.

Interviewees felt that some of the vignettes were repeated behaviors, but they clearly recognized the boy and girl actor, the teacher sitting in the student chair, and the teacher-student "faults" that they felt they were being asked to assess.

Interviewees' negative responses were more numerous than positive responses to the vignette depicting eye contact. This reaction was similar to the statistical analysis of the student responses on the questionnaire. The students suggested that the procedure of the teacher-model could be improved. In particular, the direct gaze as acted in the vignette was an unblinking stare of the teacher lasting longer than comfortable in daily social interaction. The film could be refined to show eye blink with less of a staring quality.

Too much direct gaze is unnerving or embarrassing to the students, but too little eye contact is negative behavior denoting guilt or subordinate position (Exline, 1971).

Student interviewees were mixed in their response to the scene showing the teacher touching the student, with three students reacting positively and the remainder neutral to negative. Their responses were substantiated by the statistical analyses of the hypotheses.

Interviewees perceived the teacher sitting in the student's chair as negative in helping a student to learn. analyses of the hypotheses did not show invasion alone as being

significant. The personal opinion of the students who were interviewed was strongly opposed to the practice. A teacher sitting in a student's chair is apparently too powerful an invasion of privacy and unnecessary; a poor way to help a student. The teacher of any subject utilizing equipment may be uncomfortable leaning over showing the student, but the teacher's effectiveness may be greater if he or she allows the student to do and to practice, not taking the job over but recognizing the sanctity of the privacy of the student.

Most business education teachers are female and a female teacher was selected to act in the vignettes for this reason. The three female and three male interviewees were asked if they would have felt differently if a male teacher had acted in the vignettes. One-half of the interviewees would have felt differently, one female and two males, if the teacher had been a male. It is apparent that the sex of the teacher was a factor in the study, and it is difficult for students to specify what sex of teacher they would select. They are seldom given this option, but from their comments it is evident that they are aware of sex differences.

When asked what action of the teacher they did not like, interviewees listed "arm motion--brushing him off", "taking the student's chair," and "interaction was a hindrance because it wouldn't help my skills."

When they were asked what sort of things the teacher was doing that made them like her behavior as a teacher, they

named these activities: smiles, hand guiding, and one-to-one relationship to a teacher.

When interviewees were asked what differences they had seen in the 16 vignettes, they reported "looking at students", "repetitious," and "only small differences" among the vignettes. They did not appear fully aware of all of the variables being studied.

Students said they felt somewhat bored in watching the vignettes although they discriminated in their defintion of the word "bored." For example, one student said the film was not entertaining and another said it lost some of its potential because of its repetitious nature.

Interviewees felt positive at the end of the presentation. Three responded positively, and the remaining three were equally divided between neutral, negative, and no response. The question indicated that they were not fatigued. Two comments were recorded which shed light on their feelings: teacher more considerate at the end, and monotonous. From the comment that the teacher was more considerate at the end of the tape, it might be concluded that students, even within a short period, adjust to a teacher's demeanor and behavior, or that they adjust to videotaped vignettes, since no change in teacher behavior other than those of the variables invasion, eye contact, and touch was depicted. Another possible explanation might be that the teacher-actor may have

felt more at ease in the last few vignettes and this may have been observed by the more discriminating interviewees.

Interviewees suggested that the presentation could be shortened and that it could have focused in on the differences.

Interviewees thought the study was about teaching methods, typing techniques, and how teachers could improve themselves. Students are aware of teaching methodology and can make positive, helpful suggestions toward improving various teaching activities. Based on the student responses to this question, students did perceive the televised vignettes as dealing with teacher's behaviors. While they did note differences in the teacher's behaviors, their primary comments on the use of the tape dealt with improving the teacher's performance overall.

Implications

Implications which may be drawn from this study follow.

The basic assumption of the study was that student perception of teacher nonverbal behaviors were to be studied for the purposes of teacher preparation and in-service training.

The pre-service teacher learns in training how to control the classroom situation and how to move about the classroom. Much of this movement is appropriate but will be on the pre-conscious level. Practice in movement may open up awareness to territoriality. Explication of the underlying

rationale and research findings would seem to offer a positive approach to the phenomena of territoriality and would bring to the pre-service teacher the conscious awareness helpful to his training in classroom control and interaction. Preparation of model videotape recordings hold promise for an effective way to train teachers for non-verbal behaviors.

For in-service training, micro-teaching videotaping experiences could be provided for the improvement and refinement of nonverbal behaviors. The data suggest teachers need to be instructed in the differing responses of males and females to various teacher behaviors. Micro-teaching experience could be provided in the different nonverbal behaviors and could be used to make corrections in the emerging teaching style. There is reason to believe the behaviors described in this study are appropriate for the teacher in training to practice. They are behaviors which can be expanded upon in the teacher's repertoire of learned behaviors, just as a firm grasp of subject matter is developed.

The in-service teacher should be aware of the use of nonverbal behaviors, especially invasion, touching students, and eye contact as they are important techniques. Implication for all teaching methods is the appropriateness of eye contact. Eye contact and interaction are naturally reduced between persons when there is a task at hand--focus is appropriately on the task rather than on persons. Through additional training the in-service teacher may become consciously aware of

territoriality and become able to refine his or her use of space and may free up his or her movements in the classroom. Programs could be developed to help them view themselves, change, and improve.

Even though the results in the post-treatment interview were preliminary, student comments indicated that the teacher behaviors were recognized by students as being differentiated. Special model tapes could be constructed illustrating various nonverbal behaviors, space, eye contact, and others in which the teacher-in-training could identify appropriate and inappropriate behaviors of the teacher.

The literature suggests that better arrangement of classrooms for improved learning environment and for demonstrations utilizing equipment is needed. Student imitation is an important element in learning. Some demonstrations for the purpose of student imitation are more complex than others. The tendency is for teachers to stop demonstrating because the teacher can't "see" results or is embarrassed but this tendency should be avoided. That all demonstrations from the front of a typewriting classroom cannot be seen by all students is a problem handled by giving mini-demonstrations. However, the teacher sitting in a student's chair is as an invasion of privacy perceived by students as a poor way to help a student. The teacher of any subject utilizing equipment may be uncomfortable leaning or showing the student, but the teacher's effectiveness is greater if allowing the student to

do, to practice, not taking the job over. The demonstration and help will be more successful if the teacher takes into consideration the student's territoriality and sex.

Further research is needed in the use of the videotape method of studying and training in teacher nonverbal behaviors. Teachers could use camera techniques to first study behaviors and then, just as dancers use mirrors before which to practice and improve their routines, to practice nonverbal behaviors. The teacher's repertoire of learned nonverbal behaviors can be developed and expanded, just as a firm grasp of subject matter is developed.

As with all research, certain limitations and parameters subject to the circumstances and the research situation limit the generalizeability and scope of the findings. In the study here, the findings are limited by the following:

Silent videotape recordings were utilized to elicit student perceptions of three nonverbal teacher behaviors whereas face to face experiment would have been the preferred method.

A typewriting classroom was utilized in this study and the perceptions of the typewriting students responding were limited to the perceptions within their own framework of typewriting instruction.

A female teacher was utilized in the vignettes. Both sexes were not represented.

The study is limited to one geographic region of the United States. Further research showing the videotape

presentation in more schools over a broader area might prove fruitful. It would seem that comparisons of results might indicate geographic and regional differences in student perceptions. For a complete description of these limitations, please see Chapter I.

Summary of Major Findings

The primary purpose of the study was to investigate student perception of three nonverbal teacher behaviors in a typewriting classroom. These behaviors consisted of two variations each of invasion, touching, and eye contact.

Students did not perceive a significant difference between having the teacher sit in a chair next to them or sit in their chair. However, students' sex made a significant difference (.01) in their attitudes about invasion, with less hindrance by a female teacher's sitting in a female student's chair than in a male student's chair.

Students did not feel there was a difference in the teacher's helping them to learn by either touching or not touching their hand. However, when both invasion and touch were used by the teacher, students felt (.05) they were being helped more than when touch and invasion were not used.

There was a significant difference (.05) on student perception of eye contact--students preferred no eye contact as helping them to learn. Furthermore, when eye contact was combined with invasion, eye contact and no invasion combined

were perceived as significantly (.001) more helpful to learning.

Males and females did not react at a significant difference to the sixteen vignettes, although males tended to be more positive in their average responses.

Subjects differed significantly (.001) in their reactions to the sex of the student actor in the vignettes. When sex of student actor was combined with invasion, students' response was significant (.01). Students perceived female invasion by female teacher more acceptable than to male student. Sex of student actor, eye contact, and touch combined were significant (.01).

Students' responses from the experiment were corroborated by personal statements in student interviews and students recognized the presentation concerned teaching methodologies.

A P P E N D I C E S

APPENDIX A

Introduction and Instructions for the Videotape Presentation

INTRODUCTION

Television Episodes

We are asking for your cooperation in viewing some television episodes and giving us your opinion of what you see.

In order for your opinion to remain confidential, please DO NOT WRITE YOUR NAME ON THE RESPONSE SHEET.

Instructions for the Response Sheet

Print your school and city in the appropriate blanks:

--MARK ANSWER ON OPTICAL SCANNING SHEET
--USE #2 PENCIL ONLY
--MARK ONLY ONE ANSWER

1. Find the lower right corner of your answer sheet where it says GRADE. Mark the appropriate shaded black under column 1, with your grade.

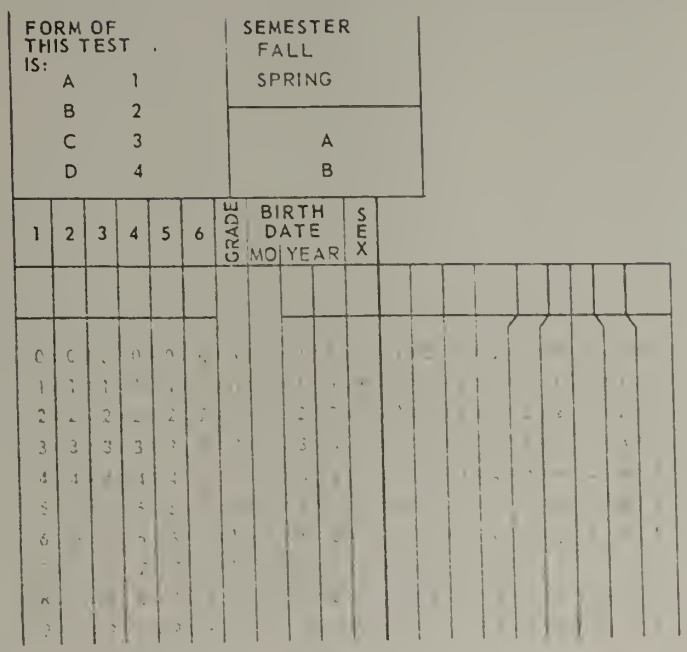
Ninth Grade
Tenth Grade
Eleventh Grade
Twelfth Grade

2. What is your age to your nearest birthday? Blacken the appropriate numbers under Columns 1-2. (Please refer to the sample on the next page.)

14
15
16
17
18
19

3. What is your sex? Please locate the column headed SEX and blacken over "B" or "G" to indicate your sex.

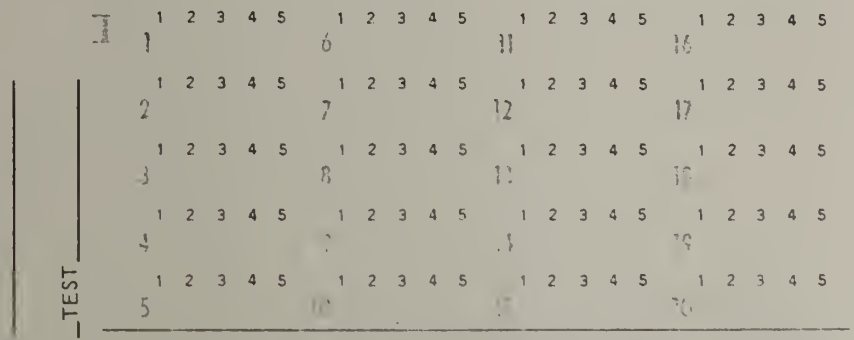
4. Immediately above these you will see an A and a B.



If you are in Typewriting I, Blacken A.

If you are in Personal Typewriting, Blacken B.

5. Please find Section I on your response sheet. Notice that for response Number 6, you go to the next column. Response Number 6 is not under Number 5.



There will be time after each episode to allow for you to mark your questionnaire. Wait for the televised vignette to begin. MARK ONLY ONE RESPONSE FOR EACH EPISODE.

INSTRUCTIONS FOR THE VIDEOTAPE PRESENTATION

You are going to see some televised actions of a teacher in a classroom. These will be situations that are common, those in which you would be able to easily imagine yourself.

Imagine that you are the student pictured. When your hand is raised to get your teacher's attention, and your teacher approaches you, imagine how you would feel in each episode.

Based on what the teacher does, you will be judging how effective you think the teacher would be in helping you in each situation. After you view each situation, mark the response sheet using the following five-point scale to indicate your judgment:

1. Would hinder me very much.
2. Would hinder me somewhat.
3. Neither helps nor hinders me.
4. Would help me somewhat.
5. Helps me very much.

EXAMPLE:

"If you think the teacher wouldn't be effective at all in helping you, but would instead hinder you in a particular 30-second vignette, mark your answer sheet like this:

Mark only one response for each episode.

APPENDIX B

Instructions to Judges of the Student Interviews and Student Interview Judging Sheets

JUDGES OF THE STUDENT INTERVIEW

Instructions

Please listen to the taped interviews of the five interviewees (Ss) who permitted tape recording of their interview. As you listen, please judge and check off the Ss response according to whether you believe the Ss replies are "Positive" through "Negative" with positive as one (1), neutral as two (2), and negative as three (3). See EXAMPLE following:

EXAMPLE:

	(1)	(2)	(3)
2. What was your personal reaction to the process you have just seen? Comments:	_____	_____	_____

Please write under "Comments" any comments or responses of the Ss in the words the respondent used if, in your opinion, the responses are unusual or unique. If it is necessary to summarize what the respondent has said, please summarize what you think has been said.

Please feel free to use additional space for comments. Be sure to mark the Student Number on the Judging Sheet to correspond to the Student Number on the Cassette interview recording.

_____
JUDGE

_____
TITLE

STUDENT INTERVIEW JUDGING SHEET

	Pos.	Neu.	Neg.
1. Is it alright with you if we tape record this interview? Comments:	_____	_____	_____
2. What was your personal reaction to the process you have just seen? Comments.	_____	_____	_____

		Pos.	Neu.	Neg.
3.	What was your personal reaction to the teaching behavior as viewed on the film? Comments:	_____	_____	_____
4.	What did you think the teacher was doing? Comments:			
5.	What did you see the teacher doing that would make you feel good in the class? Comments:			
6.	What did you see the teacher doing that would make you feel bad in the class? Comments:			
7.	Were there any sequences in the film that you thought were the same, or almost the same? Comments:	_____	_____	_____
8.	What did you feel in Vignette Number 1 when the teacher was looking directly into your eyes? (Judges: Please check the individual response.)			
	(1.) Completely at ease--enjoyed her gaze.	_____	_____	_____
	(2.) Somewhat at ease.	_____	_____	_____
	(3.) Neutral--no reaction to her gaze.	_____	_____	_____
	(4.) Slightly embarrassed.	_____	_____	_____
	(5.) Embarrassed--wanted her to look away.	_____	_____	_____
	Comments:			
9.	How did you react to the scene of the teacher touching the student? Comments:	_____	_____	_____
10.	How did you feel when the teacher sat in the student's chair? Comments:	_____	_____	_____
11.	Would you have felt differently if this had been a male teacher? Comments:	_____	_____	_____

		Pos.	Neu.	Neg.
12.	What actions of the teacher did you see that you did not like? Comments:	_____	_____	_____
13.	Did the sort of things the teacher was doing make you like her behavior as a teacher? Comments:	_____	_____	_____
14.	What similarities did you see in the vignettes? Comments:	_____	_____	_____
15.	Did you feel bored viewing the films and checking off the questionnaire? Comments:	_____	_____	_____
16.	Did you feel at the end as you did in the beginning? Comments:	_____	_____	_____
17.	What changes would you make in the presentation? Comments:	_____	_____	_____
18.	What did you think the study was about? Comments:	_____	_____	_____

19.	In what class are you:	_____	_____	_____	_____
		9	10	11	12

20. In what typewriting course are you enrolled?

Typewriting I _____

Personal Typewriting _____

APPENDIX C

Comments made by Interviewees to Each of the Interview Questions are Quoted below from Judges' Sheets

1. Interviewees' responses to the question, "What was your personal reaction to the process you have just seen?"

   Differences very minute--not distinguishable (3rd judge agreed).
   Way to find out the best teaching method.
   Shows different ways teachers have handled themselves on 1-1 relationship with student (male student).
   Teacher comes over and completely takes the typewriter away. "Acknowledge."

2. Interviewees' responses to the question, "What was your personal reaction to the teaching behavior as viewed on the film?"

   Some good--some poor.
   "Participation oriented" student.
   The student needs participation "conveying the message about the typewriter"(male).
   Pretty unrealistic (2 judges agreed).
   Teacher did the student work.
   Works out her own problems by herself.
   We understood what you were trying to get out of us. Hinders me to have that sort of teaching techniques.
   Honest--pretty good but "not entertaining."
   I didn't like: Never once did she leave, she stayed close, she always made him get up.

3. Interviewees' responses to the question, "Interviewees' responses to the question, "What did you think the teacher was doing?"

   What do people think about when watching any film.
   Couldn't tell.
   Couldn't tell exactly--may have been not beneficial to the student.
   Helping the student.

4. Interviewees' responses to the question, "What did you see the teacher doing that would make you feel good in the class?"

Couldn't remember.
Yes, sitting next to student teacher helpful; responding to a students raised hand.
Negative--perceives teacher as potentially interfering with her life--almost a threat.
No.
Nothing.
"I can do it myself" (female student).
Showed him what he wanted to be shown.
"Involvement."
"Non-beneficial" and how it could increase his typing skill, or non-beneficial, unrealistic.

5. Interviewees' responses to the question, "What did you see the teacher doing that would make you feel bad in the class?"

Looking directly at the student, taking student chair.
Not bad but uncomfortable.
Teacher taking students place in typing chair.
Taking the students chair.
Teacher turned her back to the student.
No, don't like her watching me.
Maybe uncomfortable.
"Having student get out of chair, I don't know what's going on--student interpretation of what student in the film was thinking." (male student)
The way she was looking . . . she would put her hand on the keyboard, instead of the student. I wouldn't like it.

6. Interviewees' responses to the question, "Were there any sequences in the film that you thought were the same, or almost the same?"

Yes, teacher sitting in student chair have views on sex as part of a classroom.
Yes.
Many; many the same--teacher was working on student faults.
Most alike.
Yes--thought some were repeats.
There seemed no total connection, something lacking in each case. Ten or fifteen different faults of student and teacher. Involvement wasn't clear.
Not really, but I did notice boy and girl.

7. Interviewees' responses to the question, "What did you feel in vignette number 1 when the teacher was looking directly into your eyes?"

"That would make me very nervous." (Male)
"Ill at ease"--still there.
Interviewers "I get a sort of negative feeling."
Very nervous; senses teacher antagonism to the student (student #1).
Made me nervous, not embarrassed.
"It makes me nervous to have someone looking at me when I'm typing. Inhibited."
"That would make me uncomfortable. Staring puts people ill at ease" (female student).
"A definite negative feeling . . . I couldn't see them (beneficial aspects)--to make a mistake, and you don't want her to see it if you do make one."

8. Interviewees' responses to the question, "How did you react to the scene of the teacher touching the student?"

Not accomplishing anything, distracting the student.
"There might be something good about it, but I'd rather for my own."
More effective.
Depends on the student.
Guide the student. It might be very good or the student might be independent (male).
I didn't see what that was doing anyway.
Embarrassed.

9. Interviewees' responses to the question, "How did you feel when the teacher sat in the student's chair?"

"There are all just examples of the things I felt were wrong in one way or another."
Interviewer once says "Your chair."
No way to help a student.
If she's going to show me something, she should show me, not take my chair over. Not complete way of learning.

10. Interviewees' responses to the question, "Would you have felt differently if this had been a male teacher?"

"Don't touch society."
No.
I think I might not identify with a female instructor (female student). I have a male instructor.

11. Interviewees' responses to the question, "What actions of the teacher did you see that you did not like?"

"Arm motion--brushing him off."
Many actions were unnecessary.
Taking student chair.
Couldn't hear response.
"Power hungry student."
Having the student watch her instead of doing it himself (female student).
"Inadequate. They all lacked something. Unnecessary."
Interaction was a hindrance because it wouldn't help my skills.

12. Interviewees' responses to the question, "Did the sort of things the teacher was doing make you like her behavior as a teacher?"

Five positive comments follow:

Teacher showed an interest in the students.
Many smiles--important.
Hand guiding may have helped.
One-to-one relationship would have been good.
One-to-one relationship to a teacher.

One neutral judgment was evidenced by the following comment:

I was puzzled and had no idea what was going on.

13. Interviewees' responses to the question, "What similarities did you see in the vignettes?" And Interjudge consistency of those responses.

Looking at students.
Yes.
Very little difference.
Many--only small differences.
4-6 different things, repetitious.
I wasn't looking at the teacher's facial expression.

14. Interviewees' responses to the question, "Did you feel bored viewing the films and checking off the questionnaire?"

She was bored.
Yes--couldn't tell the difference.
"Checking questionnaire didn't bother me."
No--hard to distinguish between vignettes.

"Yes--all alike."
"Yes--not entertaining."
Repeat, over and over. It lost some of its potential.
You really could tell the difference.

15. Interviewees' responses to the question, "Did you feel at the end as you did in the beginning?"

Teacher more considerate at the end.
Monotonous.

16. Interviewees' responses to the question, "What changes would you make in the presentation?"

Tries to help--all the pictures were the same.
Get another teacher.
Shorten; change "model" teacher; too hurried; too long.
Shorter.
I would focus in on the differences.

17. Interviewees' responses to the question, "What did you think the study was about?"

She has tried to "psyche out" the interviewer.
Teaching methods.
Study of typing techniques.
I really don't know different teaching methods. How many came in.
"Different methods of teaching--see how teachers could improve themselves," (female).

APPENDIX D

Order of Televised Sequences Showing the Sixteen Randomized Vignettes with Combinations of Non-Verbal Behaviors and Actor as Presented to Subjects

Vignette Number	Combinations of the Non-Verbal Behaviors (Variables)	Actor Sex
1	No invasion, eye contact, touching	male
2	No invasion, no eye contact, no touching	female
3	No invasion, no eye contact, touching	male
4	No invasion, eye contact, touching	female
5	No invasion, eye contact, no touching	female
6	Invasion, no eye contact, touching	male
7	No invasion, no eye contact, no touching	male
8	Invasion, eye contact, touching	female
9	Invasion, no eye contact, no touching	male
10	No invasion, eye contact, no touching	male
11	Invasion, eye contact, no touching	male
12	Invasion, eye contact, no touching	female
13	Invasion, no eye contact, touching	female
14	Invasion, no eye contact, no touching	female
15	Invasion, eye contact, touching	male
16	No invasion, no eye contact, touching	female

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