THE EFFECTS OF VIDEOTAPING AND PLAYBACK ON THE COMMUNICATION PERFORMANCE OF INTROVERTED AND EXTROVERTED INDIVIDUALS

DISSERTATION

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The problem with which this investigation is concerned is that of determining the effects of videotaping and subsequent playback on the communication performance of introverted and extroverted individuals. The principal method of determining these effects is the subjective judgment of a panel of qualified speech instructors who viewed videotaped speeches made by the subjects. All subjects were repeatedly subjected to videotaping, and half were exposed to playback. Statistically, by using one-way analysis of covariance, the effects of playback were measured: The speaking scores achieved by the experimental introverts and extroverts were compared with the speaking scores of the control introverts and extroverts. Sixty-four subjects were used; these were limited to college students enrolled in the teacher-education program.

To carry out the purposes of the study, the following hypotheses were tested:

1. There will be a significant difference between the scores of introverted trainees who are videotaped and exposed to playback and the scores of introverted trainees who are
videotaped but not exposed to playback.

2. There will be a significant difference in the scores of extroverted trainees who are videotaped and exposed to playback and the scores of extroverted trainees who are videotaped but not exposed to playback.

To isolate introverted and extroverted subjects, the Maudsley Personality Inventory was employed. A performance-rating scale was constructed and approved by a panel of university speech instructors. Its use in the study was validated by use of the Pearson Product Moment Correlation Coefficient to correlate the ratings given by two judges of the subjects' performances in the experiment.

No significant difference between group means was found when comparing the experimental introvert group with the control introvert group, nor when comparing the experimental extrovert group with the control extrovert group. Therefore, it appears that exposure to videotape playback has very little effect on the subsequent performance of most individuals who exhibit either an introverted or extroverted personality. It was further noted that those few subjects who did show a higher speaking-performance score at any time were all students who have demonstrated better-than-average work in their academic career, as evidenced by grades.

Implications of the study include the suggestion that users of videotape for teaching purposes need not fear the effects of playback. Further research is needed to ascertain
the interrelationship of intelligence, personality type, and performance qualities. Research is also needed to determine the effects of time lapse between playback and subsequent performance and the effects of playback in relation to other personality factors.
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CHAPTER I

INTRODUCTION

The videotape apparatus, which has become a popular tool for use in educational endeavors, has many and varied uses. The videotape setup is particularly valuable in all types of training, in that it provides opportunities for individuals to view themselves in some activity. In many instances, video-taping of teachers teaching, of students performing in various educational activities, or of administrators participating in administrative situations has been accompanied by the playback and analysis of these activities (4, pp. 19-20). George E. Heen (5, p. 17) notes that the purported reason for such a use of videotaping is to provide the participant with a chance to view himself critically in the performance situation.

Instructors in performance skills have long recognized the challenging experiences confronting students who find themselves performing in a situation which is being, or will be, analyzed (for example, using the tape recorder for diction or voice analysis, for public speaking situations in which the speeches are to be criticized, for videotaping performances for eventual analysis, and for other similar performance instances). An early study by Virginia Case
(3, p. 126) indicated that the student who benefits most from such a confrontation is one whose basic attitude toward self-expression is outgoing and aggressive to some degree evidenced by the fact that the introvert is more frugal under the same conditions in which the extrovert is most expressive. Few can question the value of videotape in aiding students who perform in some audience situation to see their performance qualities and improve them. A specific case in point is the use of videotape to enable a prospective teacher to cultivate more effective speaking practices. However, unless consideration is given to the differences in effect which the playback has on the aggressive and on the nonaggressive person, the technique could be less effective than its potential would indicate. Some insight into the effects of videotaping and playback on the introverted and extroverted personalities should prove valuable in developing an even more advantageous program for training future teachers in the habits of effective communication in the classroom.

The Problem

The problem around which this study revolved was the discovery and evaluation of the effects of videotaping and subsequent playback on the communication performance of the introverted and the extroverted individual. The purpose of the study was twofold:
1. To ascertain the effects of videotaping and playback on introverted and extroverted teacher trainees after they were taped in a speaking situation.

2. To relate these findings to the more effective use of videotape for instruction and training purposes.

Hypotheses

To carry out the purposes of the experiment, the following hypotheses were tested:

1. There will be a significant difference between the scores of introverted trainees who are videotaped and exposed to playback and the scores of introverted trainees who are videotaped but not exposed to playback.

2. There will be a significant difference between the scores of extroverted trainees who are videotaped and exposed to playback and the scores of extroverted trainees who are videotaped but not exposed to playback.

Definition of Terms

For the purpose of this study, the following definitions were established:

1. Introverted and extroverted personalities were defined in terms of the measures obtained by the Maudsley Personality Inventory. This instrument was designed to measure introversion-extroversion and neuroticism.

2. Speaking performance in this study was defined by a judging panel of qualified instructors in public speaking,
according to the performance-rating scale devised for this study.

Limitations of the Study

Subjects were limited to students enrolled at a small, private, liberal arts college in south Texas in the fall of 1970 and the spring of 1971, all of whom planned to become teachers. Students were at least juniors, and none had completed the practice-teaching requirement.

Instruments

A speaking-performance-rating scale was constructed for use in judging the speaking effectiveness of the subjects in the study. In order to establish content validity, a panel of judges composed of college speech instructors was asked to consider and correct the rough draft of the scale in terms of the particular situation for which it was to be used. Consideration in preparing this rough draft of the scale was given to rating performance rather than demanding extensive research for the speeches delivered by the subjects; consideration was also given to facilitating brevity in the time required to rate each subject and to reporting the criticisms in a numerical form. The rough draft of the scale was approved by the panel of judges.

Before the scale was employed, the raters used in the study were asked to view especially prepared videotapes of speakers. From their ratings, a degree of inter-rater
reliability at the $r = .85$ or greater was established. In order to maintain reliability of measures throughout the study, before each evaluation session the raters were checked again for a reliability correlation of $r = .85$ or greater. Also with each round, a matching of ratings against the first practice tape for raters was checked for consistency of ratings. (See Appendix I for an example of the rating scale.)

The *Maudsley Personality Inventory* (hereafter referred to as the MPI) was used to measure extroversion-introversion. This instrument was chosen not only because of its excellent recommendation in Oscar Krisen Buros' *Sixth Mental Measurements Yearbook* (1, p. 287) but also because of its brief testing time (10-15 minutes).

The test consists of 48 items: 24 keyed to extroversion-introversion, and 24 keyed to neuroticism. The test is so designed that the extroversion-introversion aspect may be scored separately. According to the test, a score of 0 to 29 indicates a tendency toward introversion, and a score of 30 or above indicates a tendency toward extroversion. Split-half and Kuder-Richardson estimates of item intercorrelation for each scale are between .75 and .90 in various samples. Neuroticism consistently has higher internal consistency than extroversion-introversion. Test-retest reliabilities range from .70 to .90. In short, reliability of the MPI is among the highest to be found for personality
inventories. American norms were established from 1064 subjects between the years 1959 and 1962 (1, p. 287).

Buros reports that there can be little question of the factorial validity of the MPI, as is noted below. Descriptive validity of the test has been adequately established by the method of nominated groups. These ratings have indicated highly significant correlations with the relevant dimensions measured by the MPI. Buros further reports, "All in all, it seems safe to say that no other personality test is based upon a body of psychological theory so far-reaching and so diligently and ably researched as the MPI" (1, p. 287). Therefore, dependable evidence reports the MPI to have been constructed with the joint qualities of validity and reliability based on sound research.

Procedure

Students in an undergraduate program for teacher education were given the MPI for the purpose of testing for introversion and extroversion. As was mentioned in the description of the MPI, the test is designed to reveal both extroversion-introversion and neuroticism. All test items are mixed, and two scoring keys are provided for the testers: one for extroversion-introversion and the other for neuroticism. For this endeavor only the scoring key for extroversion-introversion was employed. Sixty-four subjects were selected and randomly divided into four groups.
Group I was composed of sixteen students with introverted personalities, and Group II was composed of sixteen students with extroverted personalities. These two groups were combined to form Group A, the group which was given the experimental variable (exposure to videotape playback). Group III was composed of sixteen students who tended to have introverted personalities, and Group IV included sixteen students with tendencies toward extroverted personalities. Groups III and IV combined to form Group B, the subjects used as control factors in the experiment.

The experiment followed the "Equivalent Time-Samples Design" as described by Donald T. Campbell and Julian C. Stantby (2, p. 213). Speech topics which would not require extensive research and which would be within the realm of the subjects' interests were selected by the researcher. The following topics were selected:

1. Round 1 - Reasons for selecting teaching as a profession.
2. Round 2 - Reasons for choosing my first and second teaching field (or areas of specialization).
3. Round 3 - Aspirations for my future in the teaching profession.
4. Round 4 - Areas of improvement needed in American public school education.
5. Round 5 - Areas of improvement needed in teacher training.

6. Round 6 - Self-evaluation of my oral communication efforts.

Topics for each speech were announced at least two days before each taping.

The subjects were requested to limit speeches to not less than two minutes and not more than four minutes with an option of using notes. Each individual was asked to prepare only his own speech. All subjects were told they would be videotaped.

To expedite the process, the taping procedure was kept as simple as possible. For example, the subjects were requested to wait in one room until their turn to be taped. In the next room were the cameraman with camera and a space designated as the speaking area composed of a backdrop and a speaker's podium. The conductor of the experiment called each subject, one at a time, and conducted him to the taping room. The subjects were shown the area in which they could move, and they were also given the option of using or not using the speaker's podium. At no time was anyone present during the taping except the cameraman who was instructed not to coach the performers in any way except to signal when to begin. Each subject was dismissed after his performance, and the next subject was prepared for taping. This same
procedure was employed for each taping, involving the same cameraman.

After Groups A and B were videotaped for the first speech, Group B, composed of subjects serving as part of the control group, was dismissed until the next taping round, while Group A viewed playback individually. Once again the cameraman was cautioned to make no comments. It was felt that individual viewing of playback would prohibit the variable effect caused by the subjects' apprehension at having other subjects see their performances. No effort was made to point out the errors or merits of the performances until after Round 6. For the purpose of keeping the exposure relevant to the speaker's communication experience, playback sessions were scheduled within three days after each round of taping. Playback sessions were conducted as were the taping sessions, with subjects waiting in an adjacent room until their turn to view themselves. No more than two weeks elapsed between tapings.

Performance tapes were viewed after each round by two speech instructors who were asked to rate each speaker according to the performance scale devised for the study. Raters were not informed of group structures.

To analyze the various group scores made by the experimental and control groups of introverts and extroverts in accordance with the first and second hypotheses of this study, a one-way analysis of covariance was conducted.
Organization of the Remainder of the Study

The contents of the remaining chapters of this study are enumerated below:

A. Chapter II presents a review of related literature divided into the following categories:
   1. Early experimentation with videotape (1942-1965).
   2. Recent studies using videotape (1966-present).
   3. Studies directly concerned with the effects of videotape playback.
   4. Widely accepted definitions and recent studies of introversion-extroversion.
   5. Rationale for investigating the effects of videotape playback on introverted and extroverted personalities.

B. Chapter III describes in detail the methods and procedures of the study.

C. Chapter IV presents an analysis of the data and the findings related to the two hypotheses.

D. Chapter V is composed of a summary of the study, conclusions drawn from the findings, implications of the findings, and recommendations for further study.
CHAPTER BIBLIOGRAPHY


CHAPTER II

SURVEY OF LITERATURE

The survey of literature was undertaken (1) to provide data for developing the study and (2) to review patterns of experimentation carried out either for testing the value of videotape in the classroom, for investigating the effects of its use, or for both. The survey is divided into the following related section:

1. Early experimentation with videotape,
2. Recent experimentation with videotape,
3. Studies which investigate the effects of videotape on subjects taped,
4. Widely accepted definitions and recent studies of introversion-extroversion, and
5. Rationale for investigating the effects of videotape playback on introverted and extroverted personalities.

Early Experimentation with Videotape (1942-1965)

Investigation of the possible uses for videotape (earlier known as "kinescope") and of the particular emphasis on training speakers during the early period of experimentation is presented in this section. The literature was limited to
journals containing reports of studies and to authoritative opinions.

Not many years after the teaching of public speaking and other performance activities had been firmly established in the curriculum of American colleges and universities, Howard Gilkinson noted,

In the performance of his usual duties the teacher of speech has before him a passing parade of students who adjust themselves with marked individual differences in the degree of fear and confidence with which they confront their classmates (6, p. 141).

Without seeing himself and only indirectly hearing himself, the individual who is in a public communication situation, especially if a novice, feels some apprehension about the task. Most speech therapists or speech teachers will attest to the presence of discomfort in the individual who is trying to adjust to hearing his voice on a tape recorder. It seems only logical, then, that with the arrival of videotape on the academic scene in 1961 and 1962 that this same discomfort might occur in persons not only hearing but also viewing themselves while speaking.

Gerhard Nielsen in 1962 reported that subjects tended to reject information received on videotape and that this situation was accompanied by strong emotion. In Nielsen's words,

An individual's awareness of his own behavior in a situation usually is distorted by self-interest and personal involvement. In the self-confrontation condition, a record of the reality of one's
performance contradicts erroneous perceptions and may be painful (13, p. 28).

In 1963 in another study frequently mentioned by experimenters with videotape, Nathaniel Kagan, D. R. Krathwohl, and Robert Miller (9, p. 237) employed videotape in the area of stimulated-recall therapy. The patient involved was allowed to view himself with an opportunity for a more removed point of view. In this case, a significantly greater improvement in the patient was afforded by television. On the other hand, G. R. Walz and J. A. Johnston (27), in recording the effects of videotape feedback on the self-perception of counseling students, found that the subjects more readily accepted the evaluations of others and were less positive in their own self-evaluations.

A frequently noted experiment in both professional educational journals and in professional speech journals is the study conducted in 1964 at Hunter College. The researchers wished to evaluate the use of videotaping (at that time still called "kinescope") in training student teachers. It is likely that this study gained considerable publicity because it was the first such study of video recordings, and thus it opened the door for further research in the area of videotape and teaching methods. In their study, the research team at Hunter College tested the effectiveness of videotape against the use of direct observation alone; direct
observation plus kinescope proved to be preferable to the single use of kinescope or of direct observation (24).

Psychiatrists and psychologists were interested in the therapeutic use of videotape from the time of its introduction to the consumer market. One of the earliest reports of its experimental use was made by Gerald Moore, E. Cher nell, and M. J. West (12, p. 817). Following the initial steps of Kagan, Krathwohl, and Miller, these psychologists attempted to test both the effectiveness and the effect of videotape and feedback on the improvement of psychiatric patients. And similar to the findings of Kagan, Krathwohl, and Miller, they discovered that the self-confrontation experienced through television was only effective when combined with the usual therapeutic treatment sessions.

It is apparent from these early reports that the value of videotape as a teaching and training device was demonstrated positively; None of the reports indicated its use to be a poor teaching device. However, it should also be noted that the majority of these studies indicated that, when videotape was used with feedback, it was effective only if it were accompanied by some guidelines for self-analysis or if it were used in conjunction with other teaching or training methods.

Recent Studies Using Videotape (1966-Present)

Recent studies which have centered around the use of
videotape for purposes other than testing its effects on the subjects will be reviewed in this section. The term "recent" is defined as 1966 to the present.

Much literature has appeared since the introduction of videotape to academic institutions and other research centers. Publication of the possible use of videotape in the classroom has increased with each year since 1966 when the videotape apparatus became a popular subject. Not much of the literature, however, has reported research concerning the effects of videotape on the attitude, self-concept, or feelings of the subjects taped. Instead, a considerable portion of the research done with and about videotape has been concerned with its value as an instructional aid.

Robert S. Goyer and Earl R. Harlan (7) in 1967 compared television instruction with other means of presenting course content in a basic college-speech course. They hypothesized that student progress, as measured in similar groups receiving televised instruction and other forms of instruction, will not be different. Over a period of six one-hour sessions, one group observed a televised lecture. The other groups listened, read, or received teacher lectures. A control group was established in which no instruction was offered. The results indicated that there was no advantage for any one method of presenting course material. Goyer and Harlan interpreted the findings to suggest that
we need not be fearful of exposing our students to televised instruction on an ad hoc basis, in terms of their ability to learn from such instruction. In fact, it may be the most efficient method in terms of time, and energy, when the material to be presented is especially pertinent or unique in some way and the television lecturer is particularly expert and competent (7, p. 194).

In a similar experiment reported in Speech Abstracts, Donovan J. Ochs (18, p. 159) conducted a study to determine the effectiveness of videotape in teaching advanced courses in public speaking. The video equipment was used to report experiences gained from using a videotape unit to teach vocal style, audience and message analysis, and non-verbal communication. Each subject presented a ten-minute, informative speech for videotaping. After each presentation and each playback session, students received written and oral critiques and were asked to do a self-analysis. Responses from the students indicated the following: (1) a different audience would be valuable if the assignment were repeated; (2) the pressure of peer disapproval was non-significant; (3) playback in a group, rather than individually, was preferred; (4) self-evaluations seemed more objective when playback was done several days after the live presentation. It should be noted that Ochs' findings were the result of an open-end questionnaire devised especially for that particular study. He makes no report in the literature of a statistical approach to his measurements.
As can be seen, the two recent studies already mentioned deal with the value of videotape as an instructional tool. This seems to be the primary goal of the majority of the studies made with and about videotape. David R. Taylor, Edia Lipscomb, and Robert Rosemier (22) continued this trend in their effort to compare advantages of live learning, videotape lectures alone, and a combination of the two. Particular attention was paid to interaction between students and the teacher. In the three-group structure, one group received live learning, and interaction was televised. The second group received a videotape lecture. Group three received both the videotape lesson and the live teaching. Their interaction was live. The data observed and collected by the researchers indicated that videotaped interaction is as effective as live interaction and that, at least for low-achieving students, a combination of videotaped interaction and live interaction is most effective.

Leslie E. Wilbur (30) notes in a recent essay concerned with the use of videotape in training potential instructors that the apparatus is an invaluable tool for this purpose. He proposes a warning, however, similar to that stated by many of the researchers. In a word to the "teacher of teachers" he writes,

The instructor should anticipate the shock with which some novice students confront themselves on television. Characteristics of appearance or personality which may seem innocuous to the other students can seem to be glaring inadequacies to the individual.
Consequently it is worthwhile to invest some time in preparing the class to expect to see themselves in a new fashion. Their expectation of an initial hyper-critical self-evaluation seems to increase their identification with the other members of the class (30, p. 186).

Once again evidence is presented concerning an awareness of the possible discomfort experienced when viewing oneself performing.

Studies Directly Concerned With the Effects of Videotape Playback

Recently the trend in research concerned with videotape has moved in the direction of attempting to investigate what effects videotaping and subsequent playback might have on behavior, self-concept, learning abilities, attitudes, and so forth. This interest seems to be the natural and logical step to take after a little more than a decade of developing theories of teaching and systems for analyzing teaching with videotape. This section will indicate in chronological order those studies which have attempted to measure effects of videotape on the subject taped.

David B. Young (32) conducted a study in 1967 to examine the effectiveness of combinations of two different perceptual models and a symbolic model on the acquisition of a collection of alternative techniques for maintaining a student's orientation to a talk and/or for controlling his stray behavior. The models were a film dealing with disciplinary classroom situations, a videotape model emphasizing
the reinforcing of instructional responses and ignoring deviant behavior, and a symbolic model presenting a series of student-control techniques. All subjects studied the symbolic model which was the only one given the control group. One group viewed both the film and the videotape models, while a third group saw only the videotape model. It was found that those viewing the videotape model and studying the symbolic model used a greater number of varying techniques of student control than those receiving other training models. Once again, this study points to the effectiveness of videotape as a training device and also indicates its effectiveness as a means of employing auditory and visual cues for the modification of behavior.

In research more closely related to effects produced by videotape, Roger D. Croft, David V. Stimpson, Walter L. Ross, Robert M. Bray, and Vincent J. Breglio (1) attempted to investigate the factors which might contribute to similarities and differences in the effectiveness of live and video classroom presentations. With the use of a 20-item Thurstone scale, 220 subjects were pretested for their attitudes toward intercollegiate athletics. Two experimental groups and one control group were established. One experimental group received a live presentation and the other a videotaped presentation, both of which were concerned with the undesirable character of the average college athlete. The control group received no presentation. In support of the research
hypothesis, results indicated that the live presentation elicited significantly more attitude change than the videotape presentation. The videotape presentation, in turn, elicited more change than the control situation. In the words of the research team,

The results strongly support the hypothesis that the presentation of propaganda via videotape would be less effective in producing attitude change than live, in-person presentation of the same material. Careful analysis of the amount of information cues available from the two communication media used in the study reveals that the TV tape presentation contains considerably fewer information cues (1, p. 318).

Four recent studies have dealt with the effects of videotape playback on performance abilities of subjects. These will also be presented in chronological order. Particular attention will be paid to the last study because of its similarity to and direct influence on the present study.

In September, 1970, E. Roderick Deihl, Myles P. Breen, and Charles U. Larson (2) conducted an experiment to test the effects of live criticism and videotape playback on the performance ability of speech students. Using a content-analysis category system involving eight types of misarticulations developed by George F. Mahl, the researchers noted delivery errors made in randomly selected speeches by beginning speech students. (The researchers called the reader's attention to the following bibliographic note: George F. Mahl, "Exploring Emotional States by Content Analysis," Trends in Content Analysis, ed. I. Pool, Urbana, Illinois,
Six groups were established, each receiving a different form of speech analysis. Group I received no critique of any kind. Group II was recorded but received neither teacher nor playback critiques. Group III saw their playbacks. Group IV received both playback and teacher critiques. Group V received only self-criticism in the form of an individually written self-analysis. Group VI experienced only teacher criticism.

Following the initial speech in which experimental conditions were introduced, each student delivered a second speech. These second speeches were evaluated by three coders using the Mahl procedure. The following is a list-summary of the major findings in this study:

1. Not offering the student any help results in a poorer subsequent performance than occurs under any other condition.

2. The addition of either playback or playback with teacher criticism results in fewer delivery mistakes in subsequent performances.

3. Even though the student improves when he sees himself televised, significantly increased improvement comes when instructor criticism is included. This treatment showed the most significant improvement.

Similarly, James C. McCroskey and William B. Lashbrook (10) conducted research on the effects of the various ways of employing videotape playback to teach public speaking. The underlying premise for the study was that, unless videotape and live instruction used together proved to be better than live instruction alone, live instruction alone would be
seen as the best choice. The belief that speech students learn better speaking habits by becoming aware of their performance strengths and weaknesses was accepted as a guiding principle by the researchers. From these two ideas, the following two hypotheses were formulated for the study:

1. Students of public speaking who view videotaped playback of their communicative act, after proper instruction in theory, will better meet the goals of the course than students who do not view such videotaped playback.

2. Students of public speaking who receive instructor and peer criticism during and subsequent to viewing videotaped playback of their communicative act, after proper instruction in theory, will better meet the goals of the course than students exposed to either videotaped playback without criticism or criticism without videotaped playback (10, p. 200).

In the experiment, the subjects were exposed to five weeks of instruction and practice in persuasive speaking. Two persuasive speeches were then assigned. These were accompanied with instructor-peer criticism for each subject. Another set of subjects received the same instruction and practice and were assigned the same speeches. These, however, were accompanied by playback as well as instructor-peer criticisms. At the beginning and the end of the experiment each subject wrote a self-evaluation of himself as a persuasive speaker. The ratings of the essays by a panel of judges constituted the primary dependent variables in the experiment.
The findings of the researchers indicated that the videotape-with-criticism condition proved to be significantly superior to either videotape or criticism alone. Videotape alone proved to be significantly inferior to live criticisms alone. In a discussion of these findings, McCroskey and Lashbrook wrote,

the most important finding is that it [videotape] can make either a positive or a negative contribution depending on how it is employed. . . it is clear that the way it is most frequently employed is consistent with the way we found it to have a negative impact (10, p. 205).

This appearance of negativism in the subjects' viewing of themselves in videotape playback was supported by Gabriel Salmon and Frederick J. McDonald (16) in their study concerned with reactions to viewing one's teaching performance. The study was designed to examine attitude changes and cue-selection patterns of thirty-nine teacher trainees. Each trainee was asked to teach a fifty-minute lesson to a fifth- or sixth-grade class. While lesson form was not dictated, each performance was videotaped. After the lesson, each subject was given an attitude questionnaire and was interviewed. The following day, each intern viewed himself without critical comment and was given the same questionnaire, the order of items having been rearranged; also he was interviewed again. Questionnaires and interviews for each were then statistically compared. It was hypothesized that attitude changes after playback are directly related to self-
satisfaction with performance and that self-evaluations are related to patterns of information selection; a lower self-evaluation is related to non-acceptance of teaching related information.

Both hypotheses of the experiment were supported in the findings. The conductors of the experiment concluded that satisfaction with one's performance will determine how much one will notice in his playback and what the subsequent attitude change will be. In summarizing the effects, Salmon and McDonald note,

one could expect particular desirable changes to take place after self-viewing only if the received message tells the viewer the amount of his departure from a desired standard which has been accepted as a standard by the viewer (16, p. 285).

The final report to be reviewed is one which is closely related to the present study. It is the only research yet published in the literature on videotape which deals with videotape playback effects and the personality. Richard J. Dieker, Loren Crane, and Charles T. Brown (3), all professors of communication, conducted a study of television playback and its effects on self-concept and personality needs of speakers. The study was undertaken to check the effects of repeated self-viewings on the congruence of actual and ideal self-ratings, on the congruence of self-ratings and instructor ratings, on the number of evaluative responses compared with group responses on the "Who Am I?" test, and on the
personality needs of intraception, dominance, aggression, and exhibitionism.

Subjects for the experiment were drawn from six fundamental speech classes, providing a total of fifty-four students in a self-viewing group and fifty-nine in a control group. Both groups were given the same speech assignments; each assignment was designed to increase the student's awareness of himself. Only the experimental group was videotaped, but the camera was not visible. After each speech, the members of the experimental group viewed themselves, and then all subjects were given a semantic-differential scale to assess self-concepts. Each instructor of the classes involved also filled out a semantic-differential scale for each subject following each speech.

All scales were treated statistically by means of a Lindquist Type III design analysis of variance which deals with two between-treatments effects and one within-treatment effect. The results indicated that changes in self-concept between the two groups were different over the period of time. There was greater congruency between actual and ideal self found in the control group. Comparisons of the self-ratings and instructor ratings revealed significant differences. The self-viewing group tended to give more individual evaluative responses to the "Who Am I?" test. There were significant differences in changes of reactions between groups to intraception, aggression, and exhibitionism but no significant
difference between groups' reactions to dominance. Finally, it was concluded that students who view themselves on closed-circuit television have significantly less increase in actual self-ratings than do students not exposed to playback.

In the conclusion of their report of the study, the researchers write,

It is probable that different personality types will respond differently to various kinds of self-confrontation experiences. In the future it will be necessary to analyze the impact of self-viewing for different types of students, in order to determine which students should not be subjected to this experience, and under what conditions, for those individuals who can benefit from the experience, will the most benefit be derived (3, p. 142).

The Dieker, Crane, and Brown study, which has been largely responsible for prompting this study, dealt specifically with the effects of playbacks, particularly in the area of its effects on the performing individual's self-concept. Unlike the present study, the Dieker study asked the subjects to do the rating in the experiment not of their performances but of their feelings about themselves after having been exposed to videotape playback. The major difference between the two studies lies in the nature of the subjects involved. Subjects in the present study were grouped by first testing to discover their tendencies toward introversion or extroversion, a major factor in the experiment. The Dieker study only limited subjects to those enrolled in fundamental speech classes with no attempt to define characteristics further.
Widely Accepted Definitions and Recent Studies of Introversion-Extroversion

Information in this section will include definitions of introversion-extroversion found in various books and periodicals. The inclusion of these definitions is presented in an attempt to glean a concise understanding of these personality factors. Literature reviewed in this section includes the studies conducted and reported in this country during the last several years.

The first person to become concerned directly with introverted and extroverted personalities was Carl Jung. According to Jung, those who exhibited an active interest in the world around them were essentially persons who reflected a tendency toward extroversion, while those whose direction of interest was inward were introverts. He purported that both attitudes were found in each individual, but balance varied from person to person (18, pp. 56-57). Jung also suggested that the characteristic neurosis of the extrovert was hysteria (conversion reaction, distress converted into bodily symptoms), whereas that of the introvert was psychasthenia (anxious obsession). He emphasized the independence of introversion and neuroticism (17, p. 269). I. G. Sarason, in his noteworthy book entitled Contemporary Research in Personality, points out that the general personality dimension of extroversion expresses itself in five relatively independent primary factors: surgency, dominance, parmia,
alterations between elation and depression, and lack of self-sufficiency (17, p. 107). In a later work, Sarason notes the following:

Over the years it has become clear that whereas psychologists regard introversion-extraversion as an important dimension of personality, the various indices constructed to measure it have shown quite small correlations. One interpretation of this finding is that introversion-extraversion is not a single dimension of personality but a term that refers to a complex set of characteristics. Another interpretation is that it is a basic trait of personality, but that methodologically poor measures of it have confused the issue (18, p. 147).

In the last decade, a majority of the work and studies done on the subject of introversion-extraversion have been conducted by H. J. Eysenck. Brendan A. Maher (11) notes that Eysenck's research and subsequent theories were designed to answer the question, "What are the major dimensions of personality with respect to which persons vary?" Eysenck discovered that the variance in personality functioning could be accounted for in terms of psychoticism, neuroticism, and introversion-extraversion.

Eysenck, developer of the Maudsley Personality Inventory used in the present study, defines extroversion and introversion in the following manner:

The typical extravert is sociable, likes parties, has many friends, needs to have people to talk to, and does not like reading or studying by himself. He craves excitement, takes chances, often sticks his neck out, acts on the spur of the moment, and is generally an impulsive individual. He is fond of practical jokes, always has a ready answer, and generally likes change. He is carefree, easygoing, optimistic, and likes to "laugh and be merry." He prefers to
keep moving and doing things, tends to be aggressive and may lose his temper quickly. His feelings are not kept under tight control, and he is not always a reliable person.

The typical introvert is a quiet, retiring sort of person, introspective, fond of books rather than people; he is reserved and distant except to intimate friends. He tends to plan ahead, "looks before he leaps," and distrusts the impulse of the moment. He does not like excitement, takes matters of everyday life with proper seriousness, and likes a well-ordered mode of life. He keeps his feelings under close control, seldom behaves in an aggressive manner, and does not lose his temper easily. He is reliable, somewhat pessimistic, and places great value on ethical standards (5; p. 4).

These two definitions have been selected as the guiding ones for the present study.

**Recent Studies of Introversion-Extroversion (1966-Present)**

Literature reviewed in the following section is that which appeared in periodicals during the last five years and which dealt with introversion-extroversion.

Arjun P. Purohit (14) conducted a study in mid-1966 to test the consistency of the levels in Eysenck's four-level theory of introversion-extroversion. These levels can be described as follows:

- **Level I** - Excitation-inhibition
- **Level II** - Resistance as observed through performance of activities and kinaesthetic after-effect
- **Level III** - Personality traits such as sociability, impulsivity, and rhathymia (a merry disposition)
- **Level IV** - Resistance as observed through organized thought habits
The Maudsley Personality Inventory was used to measure introversion-extroversion. Resistance to personal communication adaptation and frequency was used to test Level I. To measure Level II, the Kinaesthetic After-Effect Test, Spiral After-Effect Test, and Serial Reaction-Time Test, all designed by Eysenck, were employed.

Using Eysenck's theories on introversion-extroversion behavior, it was postulated that

a. Introverts would be superior to extroverts in the learning of any task.

b. Superiority in the learning level of introverts compared to that of extroverts would be more pronounced under static practice than under distributed practice.

The second purpose of the study was to test Eysenck's theory of excitation-inhibition against Spence's theory of general-drive level. Spence theorized that high-drive persons would be inferior to low-drive persons in the learning of competitional tasks and that such inferiority would be more pronounced if the tasks were learned under stress.

Sixty-four male and sixty-four female undergraduate students served as subjects, and each was given the Maudsley Personality Inventory. Half of the subjects in each sex group formed the "stress" group, while the other subjects formed the "nonstress" group.

The order of testing was as follows: Spiral After-Effect Test, Serial Reaction-Time Test, learning competitional paired-associate task, (Kinaesthetic After-Effect Test, and
the measurement of subject's resistance to G.S.R. (personal communication). All subjects were tested separately.

Primary among the findings of the research was that Eysenck's contention that a closer relationship between measures of constitutional and behavioral levels will exist was borne out. Also, it was discovered that high-stress, extroverted subjects were inferior in competitiveness paired-associate task learning than low-stress, extroverted subjects. With this in mind, the author of the study suggested that the Eysenck excitation-inhibition theory would be more reliable when excitation is viewed as an opposite of reactive inhibition.

In December, 1966, Siegelman (21) hypothesized that a person's orientation to extroversion in later life is associated with loving attention received during childhood and introversion is associated with parental rejection. (Siegelman based his assumption on research done in association with Roe in 1964 which postulated that a child finds loving attention satisfying and is motivated to interact with people in anticipation of pleasurable experiences. Rejective behavior in parents, in turn, may produce anxiety and a tendency to withdraw socially.) Other postulations accepted by Siegelman included the fact that rejective parents display more of an introverted model for their children, while the loving parent will encourage extroverted behavior in his offspring. In addition, it was accepted that casual as opposed to
demanding parental behavior is not related to introversion or extroversion traits.

To conduct his study, Siegelman selected 106 fourth-, fifth-, and sixth-grade males who were predominantly middle-class, Jewish children of white collar or professional working parents. To evaluate the subject's personality, parental behavior, and socioeconomic background, a socioeconomic index was constructed. This was accompanied by the Bronfenbrenner Parent Behavior Questionnaire. Parental reactions to relationships with students were measured at the onset of the study using Roe and Siegelman's Parent-Child Relation Questionnaire. The index was further supplemented by the Peer Nomination Inventory to measure sociometrically derived personality variables.

Results of the testing indicated that sons who reported their parents as punishing were rated by their male classmates as withdrawn. This data then supported the major hypothesis of the study. It was further noted that individuals who described themselves as introverted saw their parents as punishing, and those who saw themselves as extroverted described their parents as loving. (The study made no attempt to investiagte such factors as heredity and sibling position to extroversion-introversion development.)

Early in 1968, Mary Ann Vehar (23) conducted a study working under the premise that one means of exploring all facets of a pupil's psychological and sociological background
might be to examine the individual differences in personality among pupils. Specifically, the study was designed to determine the value of personality ratings of introversion and extroversion as predictors in reading ability.

Cattell's *Fourteen Factor Children's Personality Questionnaire* was employed to measure traits of personality of the subjects: forty-four girls and forty-two boys. After scores were collected, the students were divided into two groups by sex; on the basis of the scores the groups were separated into introverts and extroverts.

At this point, the children were given the *Elementary Reading Test*. Vocabulary scores of extroverts were added and the mean derived. This was compared with the mean grade of the extroverts. It was found that the highest marks were obtained by extroverted boys. This same procedure was followed with reading-comprehension scores. In this case, extroverted girls achieved the highest scores.

From the data collected, a correlation of personality scores and reading scores was made. From the correlations, it was discovered that there is little chance of extroversion-introversion personality factors being significant in predicting children's reading ability. The findings, however, did seem to indicate that, as one approaches introversion, reading ability tends to increase.

Michael A. Wallach and Helen T. Brantley (26) in 1968 designed an experiment to discover amount of gross bodily
activity induced by various samples of graphic productions. Subjects consisted of sixty-eight female undergraduate volunteers. Each was assigned at random to two experimental conditions, each having identical pretest and posttest presentation of graphic productions but different intervening manipulations of them. Following each posttest session, subjects were requested to fill out a self-descriptive inventory. Pretests served to obtain a base of graphic expansiveness for each subject. To achieve this, each subject was asked to write a story suggested by music just heard. Later, doodles were requested, as suggested by the music. The remainder of the pretest consisted of a second set of story and doodles suggested by a second musical selection. After the manipulation of gross bodily activity, a posttest was administered which once again asked for a different story and doodles. This was also repeated, as was the pretest.

Expansiveness of the doodling was measured in terms of the proportion of the page used. A transparent sheet consisting of twenty boxes was placed over each subject's page. Doodles which filled the boxes were counted, thus providing a score between 1 and 20. (The story was employed as a means of keeping the subject unaware that the doodles were the experimenters' primary concern.)

Manipulations of gross bodily activity were handled following each pretest. "Low activity" was merely having
each subject rest quietly for four minutes. During this time, each was asked to write down any thoughts concerned with the pretest activity. "High activity" consisted of simple calisthenic exercises for four minutes at each subject's own rate.

All subjects were administered the Maudsley Personality Inventory following the posttest assessment. Psychological disturbance was inferred from the Maudsley neuroticism scale. The Maudsley introversion-extroversion measure was used to provide a control for the meaning of the disturbance level. No difference between introverts and extroverts was expected, and an opportunity to check agreement-response bias was provided. The test yielded thirty-four subjects in a low-disturbance group and thirty-three in a high-disturbance group.

Findings of the study indicated that constriction or expansiveness of graphic-expressive behavior most likely possesses no psychological implications for a person's social attitudes. This implication arises because extroverts tend to engage in more extensive forms of gross bodily activity than introverts. In relation, larger amount of gross bodily activity will induce greater graphic expansiveness. When psychological conflict interferes with motor output, compensation will often overrule small gross bodily activity, and greater graphic expansiveness will prevail.

Wallach and Brantley posited that relative graphic expansiveness does not necessarily constitute a symbolic means of expressing extroversion. Rather, introversion-extroversion
is related to gross bodily activity which in turn may take on
a compensatory relationship to disturbance level in producing
graphic expansiveness.

In an attempt to give more definition to the concepts of
masculinity and femininity, Karen Vroegh (25) conducted
several studies in 1964 and 1967. Using pair-comparisons,
she made studies of sixty personality variables over the
period of time in which her studies were conducted. From
these studies, she discovered that "most-masculine" and
"least-masculine" subjects were strongly differentiated,
whereas "most-feminine" and "least-feminine" were only mod-
erately differentiated. MM boys tended to be more extrovert-
ed, more competent, and more socially adjusted.

The study presently considered was undertaken by Vroegh
to cross-validate her findings in previous studies. To
accomplish this, fifty-five grade school teachers rank-
ordered all the boys in their classroom as to degree of
masculinity and all the girls as to degree of femininity.
Vroegh then selected four children from the extreme positions
of each teacher's rank orders. She ended with a sample of
fifty-five students in each of the four extreme categories--
MM, LM, MF, LF.

Each teacher was asked to rate the four children from
her rank orders on the same sixty personality variables
Vroegh had used in her previous studies. Using a two-way
analysis of variance of scores for the female groups, Vroegh
discovered that MF and LF subjects were significantly different. The same was discovered again for MM and LM subjects.

The findings seem to indicate that Vroegh's previous studies were valid, upholding the theory that significant differences exist between MM and LM and between MF and LF subjects. Concerning the specific factor of extroversion-introversion, Vroegh discovered only a slight relation of these personality aspects to femininity and no relation to masculinity. In her conclusion she indicated that it is not possible to predict personality variations in femininity from personality variations in masculinity.

In order to investigate further the interaction of genetic and environmental influences on human behavior in terms of the psychological dimension of introversion-extroversion, Sandra Scarr (19) conducted a study dealing with social introversion-extroversion as a heritable response. Introversion and extroversion were defined to include sociability, social anxiety, friendliness to strangers, and social spontaneity.

For the study, sixty-one pairs of identical (MZ) and fraternal (DZ) twins of the same sex were used (twenty-eight DZ and twenty-four MZ). The twins and their mothers were tested at their homes by two experimenters. The tests included the Adjective Check List for the mothers and the Fels Child Behavior Scales employed by the experimenters. An
intraclass correlation was designed to show how closely the two members of a twin pair resembled each other.

The results of the study indicate that the genetic contribution to individual differences in sociability was high. MZ introspection and anxiety about self-scores were highest. This was also true in the case of friendliness and social apprehension. DZ subjects had higher scores in likeableness. Social introversion-extroversion was estimated to be more heritable than any other personality trait in this type of test population. The experimenters further conclude that temperamental aspects of behavior are produced by genotypes which predispose an individual to introverted or extroverted personalities.

Kenneth J. Shapiro and Irving E. Alexander (2) initiated research in late 1969 to investigate the interrelationship of extroversion-introversion, affiliation, and anxiety. To do so, 130 undergraduate students were selected from an introductory psychology course.

In the experiment, subjects were led to believe that they were to receive an electrical shock. Anxiety was aroused in subjects who were led to expect painful shocks but not in those who expected to receive mild ones. The major variable of affiliation was measured during a short anticipatory waiting period. The major independent variable measure was introversion-extroversion. The Myers-Briggs Type Indicator was chosen for measurement of this variable.
Subjects were randomly assigned to the high- and low-anxiety groups. Each group was balanced as much as possible for four levels of extroversion-introversion--extreme I, moderate I, extreme E, and moderate E--and according to two birth positions--first born and later born.

Upon the arrival of each group to the laboratory, subjects were placed in cubicles and electrodes attached to their forearm and index finger. (These wires were in fact connected to a machine which could measure anxiety level.) At this point, each subject was told to expect some kind of electrical shock--strong or mild. During a brief waiting period, anxiety levels were recorded at two different points. To measure affiliation prior to the actual experiment, subjects were told that the shock would be given in an adjacent room and that they could leave for a ten-minute period if they chose to do so. These other rooms were carefully described as being comfortable and spacious with reading material in each. Subjects could choose to wait alone or with other subjects. All were asked not to discuss the anticipated shock. Affiliation measures were taken from the subject's reasons for waiting together or alone. (Those who wished to remain alone so that they could study were told that there would be no time to study, and they were asked to choose again.)

The results of the study indicated that there was no systematic difference in the effectiveness of the anxiety
induction between introverts and extroverts or between first-born and later-born subjects. A strong positive relation for extroverts to affiliation intensity and a strong negative relation for introverts was noted. As anxiety increased, affiliation intensity increased for extroverts and decreased for introverts. The results clearly demonstrated that, when a person is anxious, his personality type can be predicted by his desire for affiliation.

In the spring of 1970, Richard P Whitehall and Janice A. Jipson (28) conducted the first study to measure the differential reading-program performance of extroverts and introverts.

The experimenters began the report of their study with a reference to Eysenck's findings on extroverts and introverts which indicate that these two personality types differ in the growth and dissipation of cortical inhibitory potential. This is particularly manifest in mental fatigue and the dissipation of inhibitions during rest periods. According to Eysenck, extroverts have a rapid rise in inhibition and a slower dissipation. Introverts, then, appear to be superior in conditionability to extroverts.

Forty undergraduate and graduate subjects were selected and given the Eysenck Personality Inventory (EPI). (This particular inventory was the forerunner to Eysenck's Maudsley Personality Inventory. Many of the items in the test are common to both.) Three groups were then formed based on
scores from the EPI--introverts, extroverts, and "normal" subjects. The Cooperative English Test, a test of current reading ability, was given to all subjects. Subjects were matched according to sex, age, academic classification, college curriculum, EPI scores, and comprehension percentile scores achieved on the English test. By random selection, six extroverts, seven introverts, and seven "normals" were to be taught by traditional methods. The same number of subjects was taught by experimental methods.

The experimental group used automatic reinforcement clocks which were equipped with a light that went out when a given criterion speed on a 500-word passage was not met. Traditional subjects were tested with stop watches. Experimental reading material consisted of paperback books, from which subjects were free to choose their own reading material. Traditional subjects used commonly employed reading workbooks which presented short selections followed by questions.

The traditional group attended two fifty-minute classes per week until a speed of 1000 wpm was easily attained. At this point, they moved on to paperback selections of their choice. Questions on selections were always used with 60 percent comprehension considered acceptable. All subjects involved in the study completed at least six sessions.

A two-way analysis of variance was employed, using the Scheffe approximation and assuming a fixed-effects model. There was a significant difference between the experimental
and traditional treatments as far as mean percentage of words per minute gain was concerned. There was no significant difference found in the introversion-extroversion variable.

In this first study, the hypothesis that introverts and extroverts would respond differently to traditional versus instrumental reading programs was supported. It appeared that extroverts worked best in highly structured, attention-focusing conditions, whereas introverts found such structuring unnecessary.

Whitehall and Sue J. Rubin (29) conducted another experiment concerned with instrumental and traditional methods of college reading instruction in the spring of 1971. Their purpose was to repeat the study done by Whitehall and Jipson a year earlier. They followed the same procedures just noted in the 1970 study. In this second experiment, particular attention to the overall program variable was given.

Results of this second study again indicated that the experimental method of teaching reading was superior to the traditional method. It was further discovered that extroverts do not do significantly better than do introverts or "normals." Although extroverts did show more gain in the experimental group, the overall difference was not great enough to reach a statistically significant level.

In November, 1970, P. S. Dua (4) conducted a study based on the assumption that individuals with expressed concern about their ability to interact and relate in
inter-personal situations combine such anxiety with high
degrees of introversion, emotionality, and externality as
reflected in self-ratings and self-evaluative statements of
beliefs. The purpose of the study was to measure the change
caused by treatment procedure as reflected in self-ratings
of internal-external control and measures of emotionality and
social extroversion. It was hypothesized that individuals
who had been exposed to behaviorally-oriented procedures of
action programs (expressing a problem in behavioral terms)
would evaluate themselves as being less externally controlled
and more internally controlled than the subjects who had been
exposed to treatment procedures of reeducation programs. It
was also hypothesized that the reduction in measures of emo-
tionality and improvement in social extroversion would be
more significant in subjects exposed to behaviorally-oriented
action programs than in subjects treated by reeducation pro-
grams.

Subjects were freshman university females who had ex-
pressed a concern about inability to relate in interpersonal
situations. These were given the Rotter C Scale to test
internal-external control and the Bendig Scale of Social
Extroversion-Introversion and Emotionality. Thirty subjects
were then divided into two treatment groups and one control
group. Subjects in all three groups were asked to complete
biographical data sheets and to list three significant persons
from among family, friends, faculty, or any other person who they felt was an object of difficult communication.

Treatment was extended over an eight-week period with subjects in both experimental conditions attending a half-hour individual session with a therapist twice a week. Experimental Group I was involved in an "action program." The main emphasis in this method was first to direct the subject to define interpersonal problems in behavioral terms and then to establish a sequence of specific actions to expand these specific behaviors. Experimental Group II was involved in "reeducation programs." This method was employed mainly to influence attitudes that the subject had toward the individual with whom he expected to improve interaction. All subjects were assured that they would improve interpersonal relationships. The control group was given only the pretests and posttests with no program between.

An analysis of variance was done of differences between pretherapy and posttherapy measures. The results of the study indicated that behaviorally-oriented-action program procedures induce significant positive change along dimensions of internal-external control and social extroversion. These procedures appear to be significantly more effective than reeducation procedures in producing changes.
Rationale for Investigating the Effects of Videotape Playback on Introvert and Extrovert Personalities

Literature reviewed in this section is related to a chronological view of the use of videotape and playback as a means for instruction and/or evaluation and a chronological view of recent studies in introversion-extroversion. The evolvement of television use in a classroom or laboratory situation seems to have followed a patterned progression. The first literature on the subject was concerned with possible uses for videotape. This then led to studies investigating videotape as a teaching tool or auxiliary aid to teaching. All studies involved in these two areas agree that videotape can be effective as a teaching and training device when coupled with instructor participation. It should be noted that, in view of this discovery, the present study agrees with this fact and has no desire to advocate the disuse of videotape in the classroom. The hypotheses for this study were formulated in order to test effects on the subjects and to offer recommendations for more effective use of videotape.

Dieker, Crane, and Brown note in the introduction to their report,

While video-tape is becoming popular as a means of providing a more liberal feedback to speaking behavior than a teacher can provide, the results of repeated self-viewings . . . have not been thoroughly investigated. Moreover, most of the self-viewing research in the speech classroom has focused on the second
objective—training for congruency of self and other ratings, usually after one or two viewings (3, p. 131). With the call for further research in mind, coupled with the suggestion of such researchers as Ruth Wylie (31, p. 776), who points out the detrimental effect of a lowered self-image on successful performance, this study of effects of videotape feedback on the introvert and the extrovert personality was begun.

Studies in introversion-extroversion in the last five years seem to indicate a diversity in observation both of these personality types and of their behavior. Primarily, recent studies have been concerned with evaluation and re-evaluation of highly specific aspects of introversion-extroversion. Findings have been very diverse and at times contradictory.

This chapter has noted the reports of research and experimentation concerning videotape. The popularity of videotape as a means of improvement in the classroom, of enhancing teaching methods, and of training performers of various types has been viewed in particular. Also in this chapter, the literature concerning those undertakings dealing specifically with the personality types of introversion and extroversion has been reviewed.

In Chapter III, the actual conducting of the present experiment will be reviewed in detail.
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CHAPTER III

PROCEDURE OF THE STUDY

The purpose of this study, as noted in Chapter I, was to analyze the effects of videotaping and playback on teacher trainees, exhibiting either introverted or extroverted personalities, who were taped as they were performing in a speaking situation. In reality, the study's intent was two-fold. The second purpose was to relate the findings to the more effective use of videotape for instruction and training purposes. Six major steps were necessary for obtaining and interpreting the data:

1. Determining the personality type of each subject involved,
2. Grouping typed subjects into experimental and control groups,
3. Constructing and validating a critique form for rating the speaking performance of the subjects,
4. Selecting raters for judging the performances,
5. Conducting the taping and playbacks, and
6. Tabulating data gathered from the raters' critiques and testing the hypotheses.
Determining the Personality Type of Each Subject Involved

The first consideration in the actual conducting of the experiment was to select subjects who tended toward either an introverted or extroverted personality. The intention of the researcher was to select two major groups of equal number, one composed of introverts and one composed of extroverts.

It was the desire of the researcher to select a standardization test for measuring introversion-extroversion in order to insure the validity of this initial selection. Based on its description and apparently extensive usage as indicated in Buros' *The Sixth Mental Measurements Yearbook* (1, pp. 286-296), the Maudsley Personality Inventory was selected for this purpose. The MPI was developed to measure two of the most comprehensive factors of one's personality—neuroticism and extroversion-introversion. The test was designed by its authors in such a way that each quality could be isolated. As has already been noted, validity and reliability tests were reported as highly successful. The MPI was also chosen because of the short amount of time in which the test could be given and the rapidity and relative ease with which it could be scored.

The test itself is composed of 48 items, 24 of which are keyed to extroversion-introversion. According to Eysenck (2, pp. 4-5), developer of the MPI, the test defines the
extrovert as one who is sociable, who craves excitement
and takes chances, who tends to be aggressive, and whose
feelings are not kept under tight control. The definition
proposed for the typical introvert described him as one who
distrusts impulse, who does not like excitement or aggres-
siveness, and who is quiet, retiring, and introspective. It
was under the premise of these characteristics that subjects
were selected for the study. (It should be noted here that,
as stipulated in Chapter I, subjects also had to be teacher
trainees and have had no practice teaching or other teaching
experience. This stipulation was made in order to relate the
study to classroom teaching more clearly and to avoid subjects
who may have already established an oral-teaching pattern.)

Originally 70 prospective subjects were tested for the
study. These were composed of upperclassmen enrolled in
three different education classes. The MPI set a score of
30 as the mean between introversion scores and extroversion
scores. Two students of the 70 tested obtained scores of
30. To insure that the subjects clearly tended to be either
introverts or extroverts, these two borderline subjects were
excused from the experiment. Also, after the first taping,
4 students either dropped the course in which they were en-
rolled or dropped out of school. This brought the final
number of subjects to a total of 64, 32 with introverted
tendencies and 32 with extroverted tendencies. Data in
Table I show the distribution of scores in the study.
### TABLE I

**DISTRIBUTION OF MPI SCORES FOR SUBJECTS INVOLVED IN THE STUDY**

<table>
<thead>
<tr>
<th>Score Range</th>
<th>No. of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5</td>
<td>0</td>
</tr>
<tr>
<td>6 - 10</td>
<td>2</td>
</tr>
<tr>
<td>11 - 15</td>
<td>4</td>
</tr>
<tr>
<td>16 - 10</td>
<td>11</td>
</tr>
<tr>
<td>21 - 25</td>
<td>5</td>
</tr>
<tr>
<td>26 - 30</td>
<td>10</td>
</tr>
<tr>
<td>31 - 35</td>
<td>19</td>
</tr>
<tr>
<td>36 - 40</td>
<td>11</td>
</tr>
<tr>
<td>41 - 45</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>64</strong></td>
</tr>
</tbody>
</table>

Scores ranging from 0-29 on the MPI indicate a tendency in the subject to be introverted. No subjects in this study made scores of 28, 29, or 31, which were in the middle area of the scores and would tend to indicate neither a marked tendency toward introversion nor extroversion. However, as previously mentioned, two prospective subjects did make a score of 30 and were dismissed from the study in order to avoid the possibility of not getting a true population of introverts and extroverts. Scores ranging from 31-45 indicate a tendency in the subject to be extroverted according to the MPI. As is indicated in Table I, few subjects tended to make scores in the extreme areas. This is perhaps, as indicated
by the findings of psychologists, caused by the fact that most individuals are not totally identified with introverted or extroverted characteristics but have some combination of the two. It is understood in this study that the subjects tended in some degree to be more extroverted or introverted but were not totally one personality type or another.

Grouping Typed Subjects Into Experimental and Control Groups

In order to protect accuracy in the study, it was decided that an experimental group of introverts and extroverts should be compared with a control group of introverts and extroverts. This dividing was done randomly. Of the 32 students in the group of extroverts, 16 were selected from names in a container. These 16 students served as a part of the experimental group (Group A) which would receive the experience variable, videotaping and feedback. The remaining 16 served as a part of the control group (Group B). Similarly, 16 introverts were selected randomly to complete Group A, with the remaining 16 forming the remainder of Group B. All selection of group members was handled by an impartial person who was not involved in the study nor aware of the purpose for the selection.
Constructing and Validating a Critique Form for Rating the Speaking Performances of the Subjects

For the purpose of evaluating the subjects' individual performances for each taping round, it was necessary to devise a critique form that would not only have reliability and validity but could also be administered and rated with ease. The public-speaking critique form ordinarily used in speech classes has categories which offer critique areas for both the content of the speech and the delivery of it. Since the desired factor to be analyzed in the experiment was performance change, a critique form rating only the aspects of speech delivery was needed to serve this purpose.

Public-speaking textbooks and several critique forms used in various colleges and universities were perused to isolate the areas of delivery or performance necessary for a thorough analysis of this aspect of public speaking (3, pp. 381-385; 4, pp. 211-212; 5, p. 408; 7, pp. 298-328). From these sources, a list of ten aspects of speech performance was prepared. Included in the list were the following areas: (1) enthusiasm, (2) conversational quality, (3) proper pacing, (4) proper emphasis, (5) adequate eye contact, (6) alert posture, (7) appropriate movement, (8) use of grammar, (9) clear diction, and (10) correct pronunciation.

These aspects of delivery were presented to three college professors of speech from one university in order to check their validity. All ten aspects were considered valid
and sufficient to determine adequately a speaker's delivery techniques. For ease in rating and computing scores, the list of items was reproduced in the form of the Likert-type scale (6, pp. 366-370). (See Appendix II for an example of a Likert-type scale.) The raters to be used in the study could select from a range of five attitudes--bad, poor, average, good, and excellent--concerning each delivery aspect. (See Appendix I for a view of the rating scale.) Each attitude was assigned a numerical value strictly for statistical handling of the scale.

A check for reliability between the two raters using the critique scale was conducted before each experimental speaking period. A special videotape of a speaker not involved in the study was prepared; and, after a discussion of what constitutes effective speech delivery, raters were asked to rate the performance of the speaker on the prepared tape. Scores were then compared statistically with the intention of achieving at least a correlation of .85. The following is a list of the correlation ratios for each round:

- Round I - .90
- Round II - .87
- Round III - .91
- Round IV - .90
- Round V - .87
- Round VI - .86
Correlations were noticeably high. It is felt that this occurred owing to the time allowed to discuss effective speech delivery and to the past experience in rating speeches accrued by the two raters.

Selecting Raters for Judging the Performances

In order to protect the validity of the scale, raters were selected who had experience in judging a speaking performance. Both raters were instructors in public speaking; consequently, both had experience in working with students of speech. One rater had had five semesters' experience in teaching in a small college. The other rater had had seven semesters' experience in teaching in a small college and one year's experience in teaching speech in the public schools on the secondary level. Both raters had used various methods of judging speaking performances and were familiar with the usual items the teaching of public speaking stresses for effective speech delivery. Both were also informed of the nature of the experiment and indicated an interest in its goals and eventual outcome.

Conducting the Tapings and Playbacks

The subjects for the study, who were selected from three undergraduate classes in education, had been accepted into the teacher-education program. Students were asked to volunteer with the promise of added points to their grade averages
in the courses in which they were enrolled. It was clearly stated before volunteers were accepted that participation in the experiment would not affect grades in the courses in any negative way. Prospective subjects were also informed that some or all of the tapings in which they would be involved might be conducted at times other than the times at which their respective classes met. All possible subjects were aware that they would be videotaped while doing some type of performing activity.

All volunteers were given the MPI and randomly assigned to the four groups based on the individual scores of the test. Each subject was notified of his group number, either 1, 2, 3, or 4. Each was told to prepare a three-minute speech on the subject assigned. No other information was presented except the time and place of the meetings.

Each taping session was held in a small room designed for videotaping which contained the camera, playback apparatus, background screen, and a speaker's stand. Because of the complete cooperation of the instructors of each course from which subjects were selected, all tapings were conducted during class periods. Students who were absent during class periods when group taping occurred were taped during a later class period but always before the rating of the tapes and the next taping session.

During actual tapings, subjects were called from their classroom one at a time. They were escorted to the taping
studio. Each speaker gave his group number to the cameraman who kept a list of numbers in the order in which subjects were taped. Each student's number indicated the location of his name and score record on a master list. No particular order of speakers was established. Rarely in the total experiment did a speaker precede or follow the same speaker he had in a previous session. Each speaker spoke only to the camera. No audience was present except the cameraman. Students were asked to stand and told when to begin. Other than these two instructions, no information was provided the subject during the actual taping.

All tapings occurred during morning hours. The number of students taped in one class session depended on the number of subjects enrolled in each class. One class contained 18 subjects, another 22, and the third 24. All subjects from each class were taped in a single class session. The class containing 18 of the subjects normally met for one hour. The two remaining classes involved in the experiment met for an hour and twenty minutes, twice weekly.

No less than two days after the tapings, a list of subjects' names was posted to indicate those who would be called back to view themselves on videotape. At the time of playbacks, each student was called in, one at a time, to view himself. In order to prevent any outside influence on subsequent performances, no critique or comments were offered the speakers at any time during the experiment.
No less than one week nor more than one and one-half weeks passed before the next round of tapings began. During this time, the tapes were shown and rated by the raters. This same procedure was followed throughout the experimental period.

Tabulating Data and Testing the Hypotheses

The next step of the study was to test the hypotheses by statistical treatment of the data. In tabulating the data for computer processing, the subjects' scores were divided into four primary groups established for the study--extrovert experimental and control and introvert experimental and control.

Scores were sent to a computer center where cards were punched for computer processing. Printed on each card were the subject's number, his group number, the initial score (Round I), and the sum of his remaining scores (Rounds II-VI).

A computer program was prepared for a one-way analysis of covariance. This particular statistical design was employed to measure accurately the extent of change following the first speaking round in which no experimental variable had been introduced and the remaining five speaking rounds in which playback for experimental subjects had been employed.
Hypothesis One, which stated that there would be a significant difference between the scores of introverted trainees who were videotaped and exposed to playback (Group I) and the scores of introverted trainees who were not exposed to playback (Group II), was tested through use of a one-way analysis of covariance.

Hypothesis Two, which stated that there would be a significant difference between the scores of extroverted trainees who were videotaped and exposed to playback (Group II) and the scores of extroverted trainees who were videotaped but not exposed to playback (Group IV), was tested in the same manner as Hypothesis One.

Chapter III has dealt with the actual conducting of the experiment. Chapter IV will present the findings of the study in regard to the hypotheses.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

FINDINGS OF THE STUDY

Findings of this study pertain to the analyses of effects produced by videotape playback on the subsequent performance of teacher trainees. The findings are related to the following hypotheses, as previously stated in Chapter I:

1. There will be a significant difference between the scores of introverted trainees who are videotaped and exposed to playback and the scores of introverted trainees who are videotaped but not exposed to playback.

2. There will be a significant difference between the scores of extroverted trainees who are videotaped and exposed to playback and the scores of extroverted trainees who are videotaped but not exposed to playback.

The $P = .05$ level of significance was used in rejecting experimental Hypothesis One of having a significant difference between Groups I and III (experimental and control introverts). The $P = .05$ level of significance was also used in rejecting experimental Hypothesis Two of having a significant difference between Groups II and IV (experimental and control extroverts).
Findings Related to Hypothesis One

Table II is a presentation of the performance scores of Group I composed of introverts exposed to videotape playback. Table II and similar tables noted later in this chapter are the sheets used in the experiment to provide opportunity for viewing speaking scores individually and viewing them collectively. They are presented here to provide similar opportunity.

TABLE II

PERFORMANCE SCORES OF INTROVERT TRAINEES EXPOSED TO VIDEOTAPE PLAYBACK (GROUP I)

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</table>

Numbers in the far left column represent the subjects' number for his group. The Roman numerals heading each column
represent the speaking rounds. The table is arranged to allow viewing of the collective scores for each round as well as the individual and collective scores for each subject.

Each score in Table II is the score which resulted after the two scores given the speakers by the two raters were averaged. Group I contained a total of 96 scores.

Table III is a presentation of the performance scores of Group III composed of introverts not exposed to videotape playback; it is presented in the same format as Table II.

**TABLE III**

PERFORMANCE SCORES OF INTROVERT TRAINEES NOT EXPOSED TO VIDEOTAPE PLAYBACK (GROUP III)

<table>
<thead>
<tr>
<th>Trainee</th>
<th>Round I</th>
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Scores in Table III also represent the average of the scores assigned to each trainee's performance by the raters.
Group III and all remaining groups (Group II and Group IV) also contributed 96 scores for analysis.

An F-statistic using a one-way analysis of covariance applied to data from Group I and Group III was computed. Table IV presents the summary data from that computation. The scores from Round I were used as the covariate, and the sum of scores of the remaining rounds was used as the criterion.

### TABLE IV

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Mean</th>
<th>F</th>
<th>P</th>
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</thead>
<tbody>
<tr>
<td>I</td>
<td>125.1762</td>
<td>0.9541</td>
<td>0.3368</td>
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<td>II</td>
<td>128.0738</td>
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</table>

The relatively small difference between the two adjusted-group means indicated that no significant difference was found between Group I and Group III. For this reason, experimental Hypothesis One was rejected at the .05 level.

Findings Related to Hypothesis Two

Table V is a presentation of the performance scores of Group II composed of extroverts exposed to videotape
playback. Once again, Table V represents the scores as they were arranged for use in the experiment.

**TABLE V**

PERFORMANCE SCORES OF EXTROVERT TRAINEES EXPOSED TO VIDEOTAPE PLAYBACK (GROUP II)

<table>
<thead>
<tr>
<th>Trainee</th>
<th>Round I</th>
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As for the previously cited groups, the scores for Group II are an average of the scores assigned each trainee by the raters.

Table VI presents the average speaking-performance scores of Group IV composed of extroverts not exposed to videotape playback. The presentation in Table VI completes the listing of all scores employed in the analysis of the experiment.
TABLE VI

PERFORMANCE SCORES OF EXTROVERT TRAINEES NOT EXPOSED TO VIDEOTAPE PLAYBACK (GROUP IV)

<table>
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<th>Trainee</th>
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As in the previous tables of speaking-performance scores, the scores presented for Group IV are the average of the scores assigned to the speaking performance of each trainee by the raters.

An F-statistic using a one-way analysis of covariance applied to data from Group II and Group IV was computed. Table VII presents the summary data from that computation. The scores from Round I were used as the covariant, and the sum of scores of the remaining rounds was used as the criterion.
The relatively small difference between the two adjusted group means for Group II and Group IV, as evidenced by the probability value of 0.9464, also indicated that no significant difference was found between those groups. For this reason, experimental Hypothesis Two was rejected at the .05 level.

In summary, both experimental hypotheses have been rejected in view of the results of the statistical calculations. In the following and final chapter, a summary of the findings, conclusions drawn from these findings, and suggestions for further study will be presented.
CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter will include the summary of the study, the conclusions drawn concerning the findings of the experiment, and the implications of those findings.

Summary

The study involved the analysis of effects produced by videotape playback on the speaking performance of introverts and extroverts. Prospective subjects were administered the Maudsley Personality Inventory in order to determine personality type, i.e. introvert or extrovert. Having been grouped into one of the two personality groups, subjects were randomly divided into introvert experimental and control groups and extrovert experimental and control groups.

Subjects were all exposed to six tapings of short speeches delivered on assigned, general subjects. Experimental groups viewed themselves after each taping without critical comment from any source. Control subjects merely taped their speeches each round and were not exposed to playback. Each speech was evaluated by two experienced speech raters according to a scale approved by a panel of judges and validated for each round with the use of specially prepared tapes and correlation checks.
Speaking scores for each speaker were recorded, and a mean score for the six rounds for each group, both experimental and control, was derived. Mean scores of each group were statistically compared. The introvert experimental group mean score was compared statistically with the introvert control group mean score. Extrovert group mean scores were statistically treated in an identical manner.

The data collected were examined with respect to hypotheses which postulated that there would be a significant difference between scores achieved by experimental introvert and extrovert groups and control introvert and extrovert groups. These hypotheses are more precisely stated in Chapter I.

In testing Hypothesis One, which stated that there would be a significant difference between the speaking scores of experimental and control introvert groups, a rather small difference was calculated, indicating no significant difference between those groups. The testing of Hypothesis Two, which stated that there would be a significant difference between the speaking scores of experimental and control extrovert groups, also yielded no significant difference between groups. Both experimental hypotheses were rejected.

Contrary to predictions, six individual experiences with videotape playback resulted in significantly little influence on subsequent speaking performances. While the findings of the study apply to the four experimental and
control groups studied, they do have certain implications for
the populations from which they were chosen.

Speaking scores achieved by the experimental group of
introverts compared to those of the control group of intro-
verts, even in a superficial examination, reveal no vast
difference in range. Only two introverts in both groups
achieved a speaking score higher than 35. Even though a
brief look at the scores moving from Round I to Round VI for
every group indicates a general decrease in score value, the
difference between the scores made by subjects in Round I
and those in Round VI is generally small. In some instances,
scores achieved after Round I appeared to increase gradually.
However, in reality, scores for each subject tended to vary
significantly little among the six rounds. It would seem
presumptuous to assume that a slight increase in scores after
Round I for some subjects was caused by the introduction of
the experimental variable, i.e. videotape playback. Such a
decrease may well have been caused by boredom with the experi-
ment, leading to an increasing lack of enthusiasm and/or
apathy.

In summary, then, teacher trainees who view themselves
on videotape are not significantly affected by it when making
future speeches. Nor do these trainees achieve significantly
different speaking scores during continuing self-confrontation
than do comparable students who make similar speeches but
without self-viewing.
Certain factors in the present experiment may have contributed to the lack of a playback effect. Even though Eysenck's and others' views of introverts indicate that they are retiring, reserved, not impulsive, and generally un-aggressive, it is interesting to note that the highest speaking score in the entire experiment was made by an introvert in the control group. The lack of support or criticism following the speeches and the lack of evaluations made known to the subjects left no motivation nor incentive for them to improve or become overly concerned with their performance abilities.

Investigation of the individuals in the study who achieved scores at any time of 40 or above (the highest possible score was 50) indicated that all of these were students who demonstrated better-than-average work in their academic career. This would seem to imply that scores achieved by both introverts and extroverts were more closely related to intelligence or academic enthusiasm than to their individual personality type.

Another possible explanation for the resulting speaking scores may be related to the time of measurement and subsequent speaking rounds. Since the self-viewings did not take place until a period of one to three days following the video-taping, each subject's following performance did not take place until several days after the confrontations. By
the time the students made speeches after playback, they may have forgotten some of their weaknesses. Certainly those students who served as controls in the experiment had no reminder at all of their performances and had little reason to become overly concerned with their abilities.

Most scholars would agree that an effective speaker is one who can perform well physically (for example, one who employs helpful gestures, employs helpful bodily movement, has a pleasing voice, and does nothing physically or vocally which would distract from the speaking situation), as well as one who has a topic which is well planned and appealing to the audience. Nowhere in the present study's definitions of the typical introvert or extrovert does it indicate that an individual could not achieve such speaking abilities. A loss of self-confidence in performance, caused by viewing oneself on videotape to the extent that subsequent performances will be marred, does not seem to be inherent in the definitions of these personality types and is not borne out by the study.

Studies done with introverts and extroverts, the more recent ones of which are reviewed in Chapter II of this study, generally seem to indicate that in regard to academic ability, or ability which relies chiefly on intelligence and understanding, introverts and extroverts do not differ greatly. Where they do differ seems to be in areas of self-concept, individual psychological make-up, and perhaps interpersonal,
social relationships. It may be concluded, then, that a decrease in speaking scores among individuals is more closely related to individual personality traits.

Implications for Implementation and Further Study

The present study suggests several implications for implementation and further research. First of all, the use of videotape for training persons for performance activities need not pose a threat to the educator or experimenter concerned with the effects of playback on trainees. It appears that it is not in the nature of the introverted or extroverted personality to become overly threatened or particularly supported by self-confrontation through videotape playback. It is quite likely that videotaped performance activities in which more ego-involvement was prevalent would have a different impact. Perhaps this would be true particularly in the case in which videotape playback is accompanied by criticism and suggestions from others or by directed self-analysis.

The present study used subjects from several intelligence levels as evidenced by a variety of grade-point averages. No effort was made to arrange trainees according to their academic standing, nor was an effort made to single out the superior, underachieving, or comparatively average student. Yet, as already noted previously, any increase in scores was made by those subjects whose academic records were noticeably better than average. For this reason, further
investigation is needed to ascertain the interrelationship of intelligence level as demonstrated in school grades, personality types, and the qualities of performance ability in an individual.

Another variable which needs to be investigated in future studies is the time factor between videotaping and playback and between the self-confrontation and subsequent performances. The present study used a delay of about two to three days from recording to playback and a similar length of time from playback to the next videotaped performance. If the playback were done on the same day as the videotaping and followed in a short time by the next videotaping, it is possible that the total impact of the self-confrontation would be greater, since the viewer's ideas about his abilities as demonstrated in the speaking performance would be stronger. From another viewpoint, delay might allow the trainee to view his performance with more objectivity, avoiding any hurried analyses which might prove to be unrealistic. Valuable research could be conducted to determine the effects of a variety of time factors in self-confrontation.

The present study recognizes, as well, its limitations in choosing to deal with only the introversion-extroversion personality factor. It further recognizes that other personality factors, such as neuroticism, might have a more significant effect on performance ability. Also, as noted
briefly already, it is possible that research conducted to investigate the effects of self-concept and ego-involvement in the performance activity could prove to be valuable. It is further recommended that continued studies be conducted testing the personality differences involved in individuals performing under self-confrontation situations. Such tests would focus on these differences rather than on strictly individual performance differences.

One of the most important variables which has been investigated to some extent and which merits further investigation is related to the effects of self-confrontation accompanied by external criticism and suggestions on future performances. Some of the research by others noted in this study suggests that the most valuable use of videotape and playback results when trainees or patients undergoing psychoanalysis have the benefit of expert analysis of their performances. Other studies have suggested the value in preparing those involved in self-confrontation to analyze themselves more effectively. The types of criticism by others or suggestions for self-analysis which could achieve the best possible results could prove to be valuable information. Finally, it is hoped that the present study will prompt continued investigation to discover those factors which might inhibit or enhance the speaking, teaching, and similar performance abilities of individuals.
With such a valuable tool for self-confrontation as videotape at the disposal of almost every trainer of teachers, it is becoming increasingly important that answers to the questions concerning its more valuable and effective use be found. The present study demonstrates that self-confrontation can have no adverse effects on the performance-ability development of the introverted or extroverted personality.
APPENDIX A

SPEECH PERFORMANCE RATING SCALE

Speaker #__________________________

Place a check above the adjective which in your opinion best describes the quality suggested. Place only one check for each quality.

1. Enthusiasm
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

2. Conversational quality
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

3. Proper pacing
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

4. Proper emphasis
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

5. Adequate eye contact
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

6. Alert posture
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

7. Appropriate movement
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

8. Use of grammar
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

9. Clear diction
   \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
   bad poor average good excellent

10. Correct pronunciation
    \[\square\] \[\square\] \[\square\] \[\square\] \[\square\]
    bad poor average good excellent

(For use of the researcher only)__________________________

Rater #__________________________ Score ___________________
APPENDIX B

The following is an example of the Likert-type Scale:

Directions: The following sentences are statements of policy. If you strongly approve of the statement as it stands, underscore the words "strongly approve," and so on, with regard to the other choices available (approve, undecided, disapprove, strongly disapprove).

1. The City of Farmersville should adopt a definite policy of night curfew for persons who are lawfully designated as minors.
   Strongly approve Approve Undecided Disapprove Strongly disapprove

2. The City of Farmersville should enforce the night curfew policy with a warning for the first offense and mandatory court appearance for all future offenses.
   Strongly approve Approve Undecided Disapprove Strongly disapprove

3. The City of Farmersville should publicize the night curfew policy by and through the city school system.
   Strongly approve Approve Undecided Disapprove Strongly disapprove
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