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ABSTRACT

It has been the experience of most adult basic education teachers that their students are apprehensive about taking tests. The study evaluates the effects of training adult basic education teachers in behavioral attending skills. Two basic questions were investigated: (1) Would the training of instructors in the use of behavior attending skills lead to a corresponding decrease in test anxiety on the part of examinees? and (2) What was the degree of permanence of the subjects' learned behavioral skills? A 1-hour micro-training session with an experimental and control group was used. It was found that the experimental group of teachers differed significantly from the control group in the behavioral skills of attending after training and that this difference was maintained 2 months later. It was also found that test anxiety was lower for examinees tested by the experimental group than those tested by the control group. The methodology of the study is presented in detail, and the appendix includes pertinent statistical data, a bibliography, the behavioral training manual, and the testing environment rating scale used in the study. (MW)

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THE EFFECTS OF MICROTRAINING FOR ATTENDING BEHAVIORS IN ADULT TESTING

By

Stephen S. Taylor and Irwin R. Jahns

ABSTRACT

The purpose of this study was to determine if training ABE teachers to use behavioral attending skills while administering tests would lead to a decrease in test anxiety by adult students. During a one-to-one pre-training testing session, fifteen randomly selected teachers were video taped while administering a four minute timed test to an ABE student. Following this, eight of these teachers participated in a microtraining session of one hour duration to become oriented in the use of behavioral attending skills. This training consisted of three phases: a didactic phase; a modeling phase; and, an experiential phase. Following this, each of the fifteen teachers then administered a second test to students under the same conditions as the first. This was followed with a third testing session two months later. After each testing session, the adult examinee completed a rating scale designed to quantify testing environment anxiety. These ratings, along with the vidio tapes that were analyzed for attending behaviors, were the dependent measures. It was found that the experimental group of teachers differed significantly from the control group in the behavioral skills of attending after training, and that this difference was maintained two months later. It was also found that test anxiety was lower for examinees tested by the experimental group than those tested by the control group.

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INRODUCTION

The development of standardized tests in the United States has produced a situation unique in history. Never before has any society so conscientiously sought to evaluate the abilities and charactersitics of its members and to provide each individual with opportunites consistent with these abilities and characteristics (Goslin, 1963, p. 171). In conjunction with other information, educational and psychological tests are used in arriving at decisions about and by individuals tested which may have great influence upon their ultimate welfare and that of their families. An individual's concept of himself, his motivations, and the way he is perceived by othersmay be influenced by test results. In recent years, educational and employment opportunities, at least in part, have been and are defined by test scores of one sort or another.

The administration of a standardized test to an adult or group of adults can have a variety of consequences. The immediate result is that some information about the individual's abilities is acquired by the person or organization that sponsored the test, sometimes by the examinee himself, and frequently by other interested individuals and groups (for example, the examinees's family, his teacher, or his boss). This information is likely to have several primary influences on decisions made about and by the examinee, on his self-image, and on the way he is perceived by other individuals. These efffcts, in turn, may have a cumulative or secondary impact on the sponsoring organization, on the career opportunities and overall motivation of the individual, and on peripheral groups such as the examinee's family and educational institution or program.

STATEMENT OF THE PROBLEM

It has been the experience of most adult basic education teachers that their students are apprehensive about taking tests. In fact, according to a report from the United States Department of Labor (1969), typical observations of behavior when adults were confronted with a testing situation included: (1) many did not report for testing; (2) examinees often became confused but hesitated to ask questions; (3) many marked answers randomly; and (4) some deliberately skipped pages in order to finish quickly. There was consensus that the examinees were anxious, easily embarrassed, easily discouraged, sensitive to possible reactions of others to their behavior, and easily disturbed.

It would be desirable to create a testing environment that is significanlly less threatening to the adult examinee than those which presently exist.

PURPOSE OF THE STUDY

The purpose of this study was to evaluate the effects of training adult basic education teachers in behavioral attending skills as test administrators.

Specifically, the primary objective was to determine if an increase in the use of behavioral attending skills by adult basic education teachers would lead to a corresponding decrease in test anxiety on the part of examinees. An additional objective was to examine the permanence of the learned behavioral skills acquired by the subjects of this investigation.

REVIEW OF LITERATURE

A review of the literature reveals a common thread of agreement among theorists with respect to the meaning and effects of anxiety. (Hall and Lindzey, 1957) However, Sarason and Palola (1960) declared that an understanding of the nature of test anxiety has not been illuminated in the reasoning of previous researchers even though anxiety is a central concept in theories of personality. Sarason and Palola postulate that the cause of such a state of affairs is due to the stress that is often placed on labeling individuals as "anxious" without defining "why" and "when". According to these writers, the test anxious response is associated not only with an external danger but also with unconscious contents and motivations, the conscious elaboration of which is inhibited or defendedagainst. These"unconscious contents and motivations" are attached to significant experiences in the examinees prior relationships. This infers strong unconscious hostility toward significant people in these prior relationships commonly leading to the development of guilt feelings. Consequently, the test anxious individual's feelings of hostility and guilt (conscious or unconscious) are aroused in testing situations or whenever judgement is being passed on his or her adequacy. Such an individual unconsciously redirects aggressive tendencies inward resulting in inadequate performance or failure. In essence, the test anxious response has two major effects: it narrows considerable the perceptual field, and it precludes an adequate assessment of the problem solving task. These contentions have been supported by other investigators. (Beier and Cowen, 1955; Postman and Bruner, 1948; Moffit and Stagner, 1956.)

Cole and Hall (1954) assert that fear of examinations is common in education. This fear is precipitated by teachers and parents when stressing "grades" to their children and students. Cole and Hall conclude that when this fear becomes too intense it prevents learning and can effect distortion of the subject matter even though some students are well prepared for examinations.

A considerable number of investigations have been concerned with the effects of anxiety upon performance. These studies agree that test anxiety has an adverse effect upon performance in general. (Sears, 1943; Liss, 1944; Shands, 1954) If this is true, and if test results are seriously considered in making decisions effecting students, adult educators need to be particularly concerned with this phenomenon. If test anxiety is associated with conscious or unconscious feelings toward significant others in the testing relationship, as well as with concern over how test results might be used, then adult educators must do whatever is necessary to reduce this anxiety.

Since the test administrator is one of the most prominent features of the testing environment, adult educators could benefit from exploring how (in what ways) test administrators influence examinee anxiety. Consequently, the major concern of this study was to explore the extent to which test anxiety could be influenced by modifying the behavior of the test administrator. Hopefully, this could result in the development of a situiation wherein the examinee would be able to perform to the best of his ability.

METHODOLOGY

The methodology of this study was based upon a design wherein behavior change over time could be measured. Video tape recordings of testing situations and an anxiety rating scale, completed by examinees, provided the data for this study. A one hour micro-training session developed by Ivey and others (Ivey et. al., 1968) was utilized to train teachers to use behavioral attending skills while administering tests. An experimental and control group was used. The following working hypotheses were advanced.

1. The frequency of test examinee attending behaviors, as rated by a team of raters, would differ significantly between the experimental and control groups after training the experimental group of adult basic education teachers in the behavior skills of attending.

2 Test anxiety, as perceived and reported by the adult examinee, would differ significantly between the

experimental and control groups after training the experimental group of adult basic education teachers in the behavioral skills and attending.

3. The frequency of test examiner attending behaviors, as rated by a team of raters, would differ significantly between the experimental and control groups at the time of the follow-up study two months after the attending behaviors training session.

4. Test anxiety, as perceived and reported by the adult examinee, would differ significantly between the experimental and control groups at the time of the follow-up study two months after the attending behaviors training session.

The research population consisted of fifteen adult basic education teachers who were randomly selected from the total population of adult basic education teachers in a local school system. Eight of these teachers were randomly assigned to the experimental group to receive training and seven to a control group. Prior to the microtraining session, each of the fifteen teachers administered a four minute timed test to a randomly assigned adult examinees in a video taped one-to-one testing session. After the pre-training testing session the experimental group of teachers participated in a microtraining session. (See Appendix A and B) This session lasted one hour and consisted of the following three phases: (1) Didactic. Each teacher was asked to read an attending behaviors manual that described basic behaviors of attentiveness. During this phase the teachers were encouraged to raise any questions or discuss any facet of the information contained in the manual. (2) Modeling. "Good" and "bad" examples of the use of the individual behaviors of attentiveness were modeled by the trainer. Each teacher then practiced the behaviors that were modeled by the trainer. (3) Experiential. The teachers viewed the video tape recordings of their own pre-training testing session with his peers. Each teacher was asked to identity his own use of the behavioral attending skills and the trainer reinforced each teacher with approval for both appropriate use of the behaviors as well as for accurate identification of the instances.

A subsequent one-to-one post-training testing session was then video taped with all fifteen subjects. This was followed, two months after the microtraining session, with a third testing session.

In sum, the fifteen adult basic education teachers were video taped three times each in a one-to-one testing situation, with different adult examinees each time, across a two-month time span. After each testing session the adult examinee was asked to complete a rating scale designed to quantify testing environment anxiety, a copy of which can be found in Appendix C. This scale produced three measures of anxiety. The first was an indication of examiner anxiety as perceived by the adult examinee; the second was an indication of examinee anxiety as perceived by the adult examinee; and the third was a total of both previous measures to indicate the degree of anxiety for the total testing environment as perceived by the adult examinee. These ratings, along with the video tapes that were analyzed by a team of raters for attending behaviors, were the dependent measures.

The individual testing sessions were divided into three phases to facilitate rating of the attending behaviors of teachers in the testing situation. These phases consisted of (1) entrance and seating, (2) test orientation, and (3) test ending and exit. The specific attending behaviors rated in each phase of the testing session were (1)eye contact, (2) postures and gestures, and (3) verbal reinforcement. All scores from the three sections of the testing session were summed for the attending behavior total. A copy of the rating sheet is included as appendix D.

These dependent measures were then analyzed by using a one-way analysis of variance on the pre-training data and an analysis of covariance, with test one pre-training data as the covariate, for the post-training and follow-up data.

PRESENTATION AND ANALYSIS OF DATA

Attending Behavior

The effects and relative permanence of the microtraining were plotted across the three testing sessions. This plot, presented in Figure 1, provides a useful presentation of the significant increase in the use of the behavioral skills of attending by the experimental group. It can be noted that this increase in the use of the attending behaviors by the experimental group had a general tendency to recede across time.

(figure 1 about here)

Analysis of variance results revealed no significant difference in the attending behaviors of the experimental and control groups in the pre-training sessions. For both the post-training sessions and the follow-up sessions, analysis of covariance results revealed significant differences between the experimental and control groups.

Detailed analyses of specific attending behaviors (eye contact, posture and gestures, verbal reinforcement) during each phase of the testing sessions (entrance and seating, test orientation, test ending and exit) were conducted for pre, post and follow-up testing sessions. In the pre-training sessions, no significant differences were found in the manifstation of specific attending behaviors. In the post-training sessions, significant differences were found on seven of the nine attending behaviors. For the follow-up sessions, significant differences were found that in all cases the means for the experimental group were higher than the means for the control group, thus accounting for the overall significance of attending behaviors between the two groups.

Test Anxiety

The results of the total test anxiety ratings are presented in Figure 2. These data indicate a significant decrease in test anxiety by adult examinees that were subjected to the teachers in the experimental group. It can be noted that this decrease in test anxiety as reported by the experimental group indicated a trend of returning to the pre-training conditions at the time the follow-up data was collected two months after the microtraining session was held.

(figure 2 about here)

Analysis of variance of total test anxiety resulted in no significant difference in the experimental and control groups for the pre-training sessions. Significant differences were found for both the post-training sessions and follow-up sessions.

Analysis of the two components of anxiety (perceived examiner anxiety, reported examinee anxiety) resulted in no significant differences in the experimental and control groups for the pre-training sessions, significant differences on both components for the post-training sessions, and significant differences on one component (percieved examiner anxiety) for the follow-up sessions. A comparison of attending behavior and test anxiety for the experimental group is presented in Figure 3 and for the control group in Figure 4.

(figures 3 and 4 about here)

As a result of these analyses, the four null hypotheses were rejected. It was found (1) that the frequency of test examiner attending behavior did differ significantly between the experimental and control groups immediately after training and that this difference was maintained two months later, and (2) that test anxiety differed significantly between these two groups both after training and two months later, with the exception of reported examinee anxiety during the follow-up sessions. One possible explanation for this exception may be that while the amount of training was adequate to reinforce attending behaviors in the post-training testing session, it was inadequate in terms of time spent and/or in frequency of training and reinforcement to facilitate fullest retention of the acquired behavioral skills of attending that had resulted from training.

RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the overall results of this investigation, several recommendations for research are warranted.

First, the number of microtraining sessions and the period of time over which they are conducted could be of major focus in future research studies. It is possible that the effectiveness of utilizing behavioral attending skills could vary according to the number of training sessions and/or period of time over which they take place. Future research studies could explore concerns of distributed versus concentrated practice and reinforcement to shape behavior and counteract possible extinction.

A second recommendation is that other similar studies need to be done to verify the findings and also to learn about the effects of microtraining for attending behaviors on other populations. Similar studies could be done with other adult education institutional and/or instructional populations. A sample could also be selected from different socio-economic classes, e. g., a group of paraprofessionals.

Another recommendation is that similar behavioral studies be conducted that focus on critical problems other than test anxiety. Focus might be on such areas as motivation, achievement, or attrition.

Finally, several specific questions came to mind during the implementation phase of this investigation and are set forth as possible logical extensions of this study for future researchers.

1. Do adult basic education teachers who are trained in behavioral attending skills produce higher scoring examinees?

2. Does the microtraining for attending behaviors generalize or transfer to other "real life" testing situartions?

3. Do those teachers who are assessed high in behavioral attending skills without training for these behaviors elicit higher test scores from examinees?

4. What are the results of a high anxious examiner and a low anxious examinee? A low anxious examiner and a high anxious examinee?

5. What are the effects of static variables such as sex/race mix in testing situations?

Figure 1

ATTENDING BEHAVIORS TOTAL - MEANS

Group	Pre-Training*	Post-Training*	Follow-Up*
Experimental	51.25	77.67	70.75
Control	45.71	53.67	52.00

*adjusted means

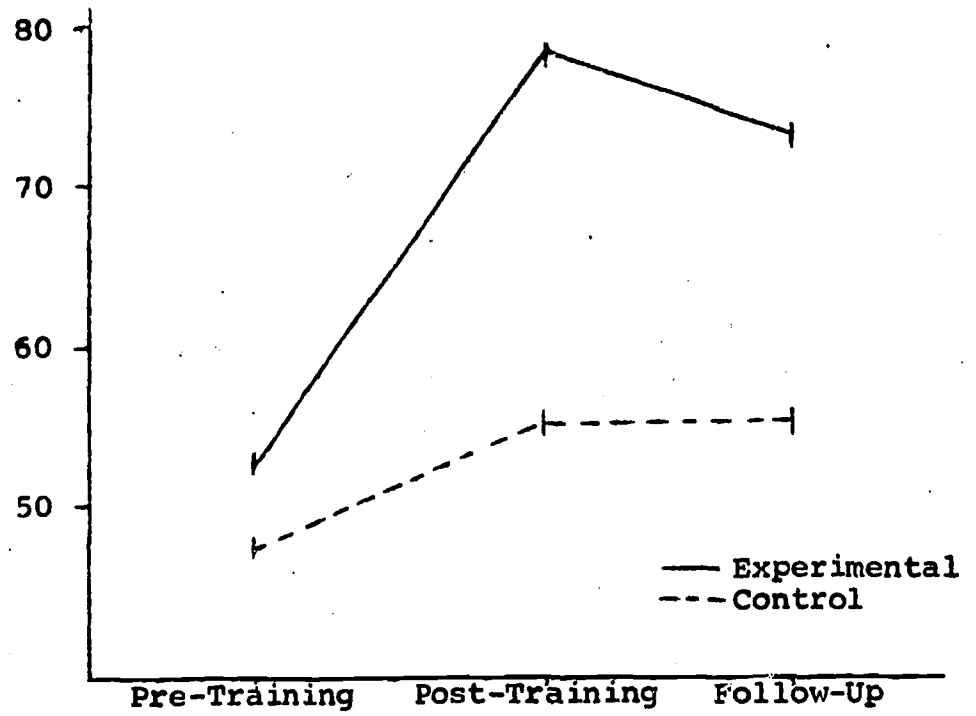

Figure 1. Attending Behaviors Total - Plotted Across Three Testing Sessions

Figure 2

TOTAL ANXIETY IN TESING ENVIRONMENT - MEANS

Group	Pre-Training*	Post-Training*	Follow-Up*
Experimental	52.00	35.81	42.17
Control	49.43	51.07	53.52

*adjusted means

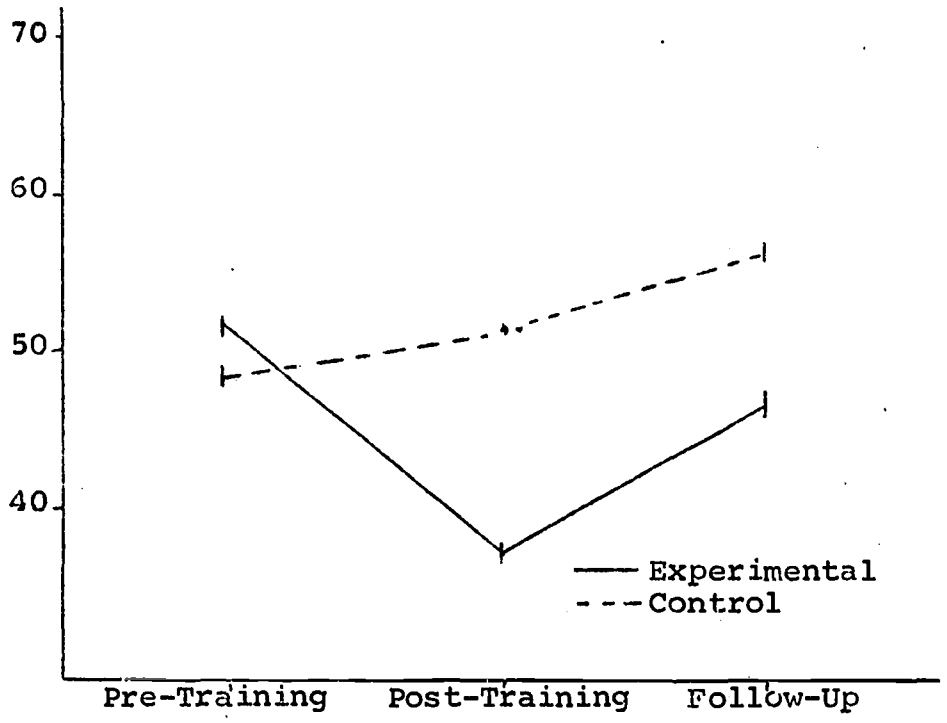

Figure 2. Total Anxiety In Testing Envornment - Plotted Across Three Testing Sessions

Figure 3

EXPERIMENTAL GROUP MEANS - ATTENDING BEHAVIORS AND TEST ANXIETY TOTALS

	Pre-Training*	Post-Training*	Follow-Up*
Attending Behaviors	51.25	77.57	70.75
Test Anxiety	52.00	35.81	42.17

*adjusted means

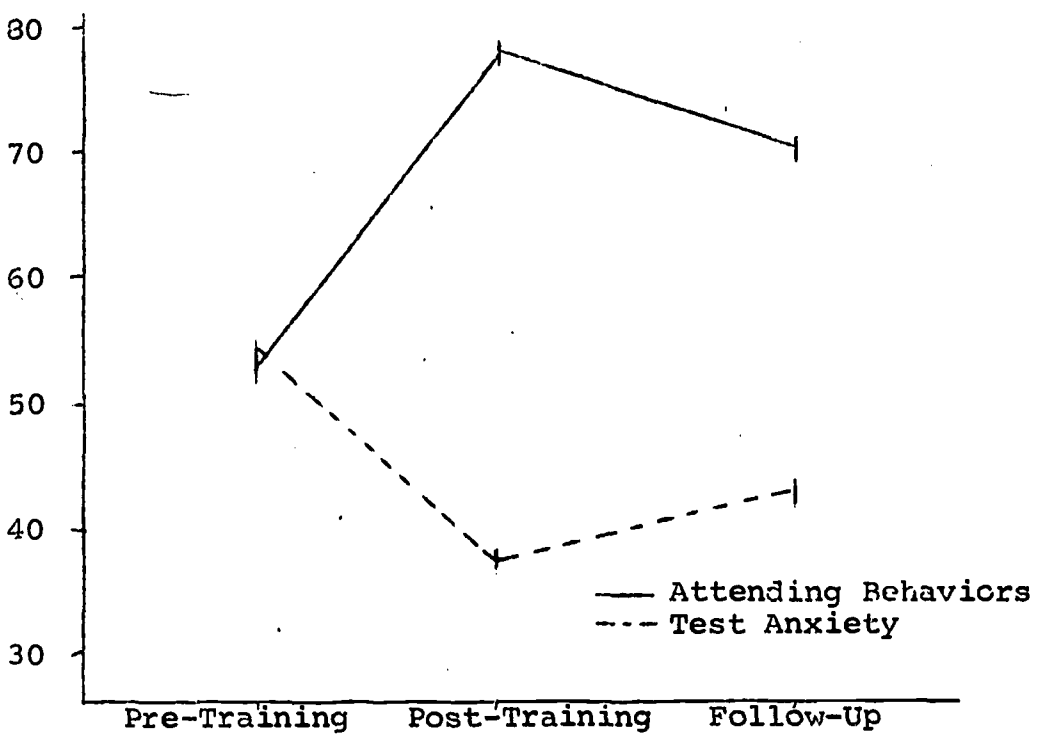

Figure 3. Experimental Group - Attending Behaviors and Test Anxiety Totals - Plotted Across Three Testing Sessions

Figure 4

CONTROL GROUP MEANS - ATTENDING BEHAVIORS

AND TEST ANXIETY TOTALS

	Pre-Training*	Post Training*	Follow-Up*
Attending Behaviors	45.71	53.67	52.00
Test Anxiety	49.43	51.07	53.52

*adjusted means

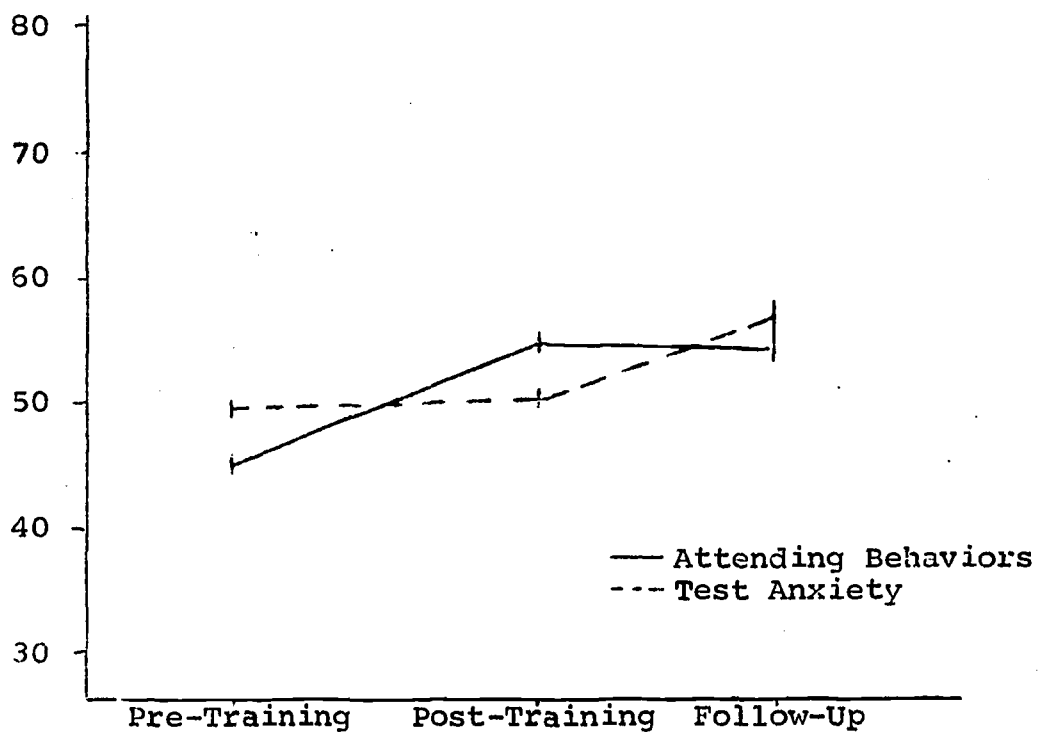

Figure 4. Control Group - Attending Behaviors and Test Anxiety Totals - Plotted Across Three Testing Sessions

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APPENDIX A

ELABORATION OF MICROTRAINING SESSIONS

Training Model

The microcounseling model expanded by Ivey (1968), served as a framework for developing the training paradigm for this study.

With regard to training for behavioral skills with this model, experimental evidence has been lacking as to what happened to the acquired skills following the termination of training. Ivey (1968) and his associates, suggested that the learned skills would probably follow the usual learning principles, even to the point of predicting extinction of learning in what amounts to a mass practice type model.

This study, accordingly, proposed the employment of a "follow-up" assessment. This assessment consisted of a five minute testing session two months after the initial training session. Specifically, the following question was investigated: Would the attending behavior skills learned during the training procedure be extinguished across time?

Instructional Format

The microtraining session was conducted in sixty minutes, being preceeded by test #1, and followed by test #2. There was a two month time lapse and then follow-up test #3.

In this study, one instructor conducted the training for all of the adult basic education teachers. The instuctor, or trainer, was a doctoral student in Adult Education at Florida State University.

APPENDIX B

ATTENDING BEHAVIOR TRAINEE MANUAL

COLORADO STATE UNIVERSITY

Counseling Center

Kettering Micro-Counseling Research

A. E. Ivey, C. D. Miller
C. J. Normington, W. H. Morrill
Training Skill Study No. 1
Training in Attending Behavior: Trainee Instructions

The training you are to receive is designed to make you more attentive to the student with whom you are working. This attentiveness on your part will help you to learn about the student, and will also communicate your attitude of interest to the student. Your attentiveness is a powerful tool: it can contribute to the self-respect, and sense of security that the student talking with you has, and it can also serve as a powerful reinforcer and facilitator of communication. Your practicing of this skill will help you in developing good relationships with students, and more generally, may contribute beneficially to any relationship in which you take part.

There are three key ideas to keep in mind, as you are learning the skill of attending behavior. The first of these, although it may sound strange, is to relax physically. You will find that if you are seated in a comfortable, relaxed position, you will be more able to listen to the person with whom you are talking, than if you are overly stiff or tense. Also, if you are relaxed physically, your posture and movements will be natural, and you will have a sense of "being yourself" as you talk. This feeling of comfortableness will help you in being free to attend, and will communicate to the other person your readiness to do so.

Secondly, use eye contact to help you to focus on the other person, and to communicate to the other person that you are listening. You need not gaze fixedly, or with undue intensity; a varied use of eye contact will be most effective...that is, at times you will want to look at the person as you talk, at times you will glance down as you think of something the other person is saying, and then return your gaze, etc.

Thirdly, set for yourself the task of "following" what the other person is saying. Fit your comments or questions into the context being provided. Stay with the topic that is introduced by the other person, and help him to develop it, rather than "topic jumping" from subject to subject. As you take your cues from the person with whom you are talking, and pursue topics, both the content of what you are saying, and your voice quality, can communicate to that person that you are "with him" as the two of you talk.

In summary, you goal is to listen attentively, and to communicate this attentiveness through a relaxed posture, use of eye contact, and verbal responses which indicate to the other person that you understand what he is communicating. Specific behaviors which you may want to utilize are:

1. Relax physically; feel the presence of the chair as you are sitting in it.

2. Let your posture be comforatble and your movements natural: for example, if you usually move and gesture a good deal, feel free to do so at this time also.

3. Use eye contact, by looking at the person with whom you are talking. Vary your gaze rather than staring fixedly.

4. "Follow" what the other person is saying, by taking cues from him. Stay with the topic that is introduced, rather than jumping from subject to subject.

5. Let your responses indicate to the other person that you are "with him" as he talks. Try to "get inside his shoes" and let him know that you understand what he is experiencing and feeling.

PLEASE DO NOT DISCUSS THIS STUDY WITH YOUR FELLOW TEACHERS UNTIL IT HAS BEEN COMPLETED...RETURN THIS INSTRUCTION BOOKLET BEFORE YOU LEAVE TODAY. IF YOU WOULD LIKE A COPY FOR YOUR FILES, THEY WILL BE AVAILABLE ONCE THE STUDY HAS BEEN COMPLETED.

APPENDIX C

EXAMINER_____GROUP_____TEST #_____

TESTING ENVIRONMENT RATING SCALE

THE PERSON THAT GAVE ME THE TEST SEEMED:

nervous___:___:___:___:___:___:___:___calm

to care___:___:___:___:___:___:___:___not to care

gloomy___:___:___:___:___:___:___:___cheerful

confused___:___:___:___:___:___:___:___sensible

relaxed___:___:___:___:___:___:___:___tense

boring___:___:___:___:___:___:___:___interesting

polite___:___:___:___:___:___:___:___rude

shallow___:___:___:___:___:___:___:___deep

I FELT:

tense___:___:___:___:___:___:___:___relaxed

sure___:___:___:___:___:___:___:___unsure

comfortable___:___:___:___:___:___:___:___uncomfortable

jittery___:___:___:___:___:___:___:___calm

relaxed___:___:___:___:___:___:___:___upset

carefree___:___:___:___:___:___:___:___worried

able___:___:___:___:___:___:___:___unable

under pressure___:___:___:___:___:___:___:___no pressure

APPENDIX D

Behavioral Observation Analysis and Rating Scale

TEACHER NUMBER___ TEST___ GROUP___

8 ← favorable-unfavorable → 1

Over-all Evaluation___:___:___:___:___:___:___:___

Entrance & Seating___:___:___:___:___:___:___:___

Test Orientation___:___:___:___:___:___:___:___

Test Ending & Exit___:___:___:___:___:___:___:___

Eye-contact___:___:___:___:___:___:___:___

Posture & Gestures___:___:___:___:___:___:___:___

Verbal Reinforcement___:___:___:___:___:___:___:___

Empathy___:___:___:___:___:___:___:___

TOTAL_____