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COMPARISON OF TWO MODES OF INSTRUCTION AND TWO MODES OF SKILL PRACTICE IN BEHAVIOR MODELING TRAINING: AN EXPLORATION OF GRAF'S GENERATION EFFECT IN LEARNING

The Ohio State University

PH.D. 1985

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COMPARISON OF TWO MODES OF INSTRUCTION AND TWO MODES OF SKILL PRACTICE IN BEHAVIOR MODELING TRAINING: AN EXPLORATION OF GRAF'S GENERATION EFFECT IN LEARNING

DISSEPTION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Nancy A. Schaab, B.S., M.A.

The Ohio State University

1985

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DEDICATION

To my parents,
in fulfillment of a promise
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Training in industrial settings has generated a vast quantity of research over the past 25 years. Many of the published articles focused upon descriptions of new training techniques, reviews of case studies, or evaluations of the effectiveness of one type of training. Prominent researchers (Campbell, 1971; Goldstein, 1980) in the area of industrial training have underscored the need for more systematic investigations of the effectiveness of training programs. Campbell, Dunnette, Lawler, and Weick (1970) stressed the value of comparing the relative effects of two or more training methods against the same criteria.

One key requirement for scientific research is a clear definition of the concepts to be studied. Goldstein (1980) defined training as "the acquisition of skills, concepts, or attitudes that results in improved performance in an on-the-job environment." He also emphasized the importance of considering what type of training is most effective for each different type of learning.
Behavior Modeling training (Goldstein and Sorcher, 1974) incorporates four components designed to maximize the effectiveness of interpersonal skills training. First, the participant receives an overview of the content of the training module, including critical steps for effective performance. After the overview, the participant observes a model using the critical steps. Second, each trainee participates in a skill practice designed to elicit the critical behaviors. Third, feedback is provided to each trainee concerning his/her performance in the skill practice session. Fourth, training is transferred to on-the-job applications.

The present study will investigate several variations of Behavior Modeling training. First, two modes of instruction will be studied. The "live" mode involves an in-class presentation of the introduction by a live instructor. The "automated" mode presents the same material via television. Both of these groups are shown the same modeling videotape. Second, two modes of skill practice will be examined. In the "live" mode, the participant conducts an interview with another person. In the "Computer-Assisted Instruction (CAI)/Interactive Video" mode, the participant interacts with a videotaped role player via the computer. The specific interpersonal skill to be trained is resolving conflict in a one-to-one interaction. Identical course content and materials (i.e., introduction, modeling tape, and critical steps) are used in each of the training programs.
One major difference between the conditions under study is the nature of the response required in the skill practice session. In the "live" mode, the skill practice involves generating responses during a one-on-one interaction with another person. The responses are demonstrations of the behaviors learned in the training program. In the "CAI/Interactive Video" mode, the skill practice consists of selecting an appropriate response from a list of five to seven options provided by the computer. The trainee must recognize the appropriate response. No improvisation is required.

Graf and his associates (Slemecka and Graf, 1978; Graf, 1980; Graf, 1981; Graf, 1982) described a phenomenon which they labeled the Generation Effect. The Generation Effect states that responses which are generated by the participant are remembered better than responses which are externally supplied. Externally supplied responses are those which are created by the experimenter and merely read by the participant. Empirical results (Anderson, Goldberg, and Hidde, 1971; Bobrow and Bower, 1969; Bower and Winzenz, 1970; Graf, 1980; Graf, 1981; Graf, 1982; Griffith, 1976; Jacoby, 1978; Rabinowitz, Mandler and Patterson, 1977; Slemecka and Graf, 1978; Thieman, 1973) strongly indicate the superiority of generating responses in terms of both recognition and recall memory. Theoretically, generating responses forces the subject to attend to the meaningful relationship between words. Subsequent memory is enhanced because the memory traces are better organized. Reading responses requires attention only
to the visual features of the word which fails to establish organized memory traces. Thus, the Generation Effect would predict substantially better performance from subjects who construct their own responses as compared to those who read responses provided by the experimenter.

Graf's Generation Effect can be viewed as two steps in the continuum extending from passive to active learning. Activities such as listening to a class lecture or watching an educational film would fall at the passive learning end of the continuum. The middle of the active-passive learning continuum would be comprised of taking notes and reading educational material. Finally, active learning would involve activities such as performing an experiment or conducting an interview. According to this configuration of learning, generating responses involves more active participation on the part of the learner than does reading externally supplied responses. To the degree that active participation enhances learning, generating responses will be more effective than reading responses.

To date, no study has compared the effectiveness of live versus automated instruction and skill practice in teaching interpersonal skills. Due to the advances in interactive video and personal computers, this type of study is now feasible. Gagne (Olson, 1983) observed that these new technologies offer great opportunities for studying learning. Kearsley and Hillelsohn (1984) cited survey data indicating that 49% of the training managers polled believe that they will increase their usage of computer based training by at least 100% in the next two years.
LITERATURE REVIEW

The following literature review is separated into four sections. In the first section the theoretical implications of Graf's Generation Effect are explored. This phenomena contrasts the effectiveness of generating responses as opposed to reading responses supplied by external sources. The major tenet of the Generation Effect is the superiority of learning which results from generating responses. This is a key point in the present study due to the nature of the responses required during the different modes of skill practice.

The second section reviews the research on Behavior Modeling training. Both the concepts involved in Behavior Modeling training and research on its effectiveness are described. The general conclusion is that Behavior Modeling training is very effective in teaching interpersonal skills.

The present study explored several variations of Behavior Modeling training. Two different modes of instruction were included. Section three of this literature review focuses on the comparison between live and automated instruction. Research results obtained from a variety of studies indicate that both modes of instruction effectively increase performance levels when compared to untrained control groups, but neither method is significantly better than the other.
Two modes of skill practice were also studied. The final section of this review provides an overview of the skill practice literature. Numerous studies showing the effectiveness of Live skill practice have been conducted. Research results for CAI/Interactive Video focus on entire training programs, rather than on the skill practice portion of training in particular. While the results indicate that performance increases after CAI/Interactive Video training, the results should be interpreted cautiously since the studies were mainly pilot tests employing small numbers of subjects. This section of the review concludes with a comparison of the types of responses required by the two modes of skill practices.

**GENERATION EFFECT**

The Generation Effect, as studied by Graf and his associates (Slamecka and Graf, 1978; Graf, 1980; Graf, 1981; Graf, 1982), is described as the superior memory for material that is generated by the participant as opposed to material which is externally presented. Slamecka and Graf (1978) state that the generation effect "is robust in that it manifests itself across a variety of testing procedures, encoding rules and other situational changes" (p. 592).
Empirical Findings

Slamecka and Graf (1978) conducted a series of five experiments to study the Generation Effect. The procedure, with slight variations for each separate experiment, involved presenting subjects with a rule, a stimulus word and the initial letter of a response word. The response word conformed to the rules, which included synonyms, rhyming words, opposites, associates and categories. The subject would either generate a response word according to the rule or read a response word provided by the experimenter. Results from the first experiment indicated that, on a recognition test, subjects who generated their own responses performed significantly better (p < .05) than subjects who read the material. There was no interaction between study time and response production (reading versus generating). In the second experiment, each subject both read and generated responses. The responses that were generated by the subject were better remembered (p < .05) than the responses that were read. The third experiment concluded that the Generation Effect only operated for the responses which were generated by the subject. The stimuli words, which were provided to all experimental groups, were not better remembered. The authors conclude that there is no evidence for heightened attention to all elements, only those that are generated. The fourth and fifth experiments used free recall tests to measure memory.
The results were the same as for recognition tests: subjects who generated their own responses remembered significantly more material than those who merely read the response. The authors conclude that the Generation Effect operates for both recall and recognition tests.

Graf (1980) extended the investigation of the Generation Effect. He conducted five experiments which required the subject to generate sentences or read sentences provided by the experimenter. In some instances, the sentences were meaningful (i.e., the tiny mouse frightened the cook) while the remaining sentences were anomalous (i.e., the blonde leaflet baked the piano). The results of Experiment 1 showed that subjects who generated their own sentences scored significantly higher (p < .05) on a recall test than subjects who read the sentences. This generation effect occurred only for meaningful material. Anomalous sentences were remembered equally well by subjects in both the generate and the read conditions. In Experiment 2, the number of study trials was increased from one to three. While performance for all subjects increased, the Generation Effect was still operating. Recall was significantly higher for subjects who generated their own responses. In the third experiment, subjects were tested after each of the three study trials. The generation effect for meaningful material persisted over study trials. The last two experiments used recognition tests. Subjects generating their responses received significantly higher recognition scores.
Using the same experimental procedure as his 1980 study, Graf (1981) again found support for the Generation Effect. Those subjects who generated responses recalled significantly more material than the subjects who read the material. Graf (1982) replicated his previous finding that the Generation Effect is larger for meaningful material than anomalous material when recognition tests are utilized.

Other researchers report similar results concerning the Generation Effect. Jacoby (1978) conducted a study in which subjects either generated their own solutions to crossword puzzle clues or read solutions provided by the experimenter. Subsequent recall was significantly higher for the group which generated the answers. He concluded that reading a solution always leads to poorer later remembering than construction of the solution.

Griffith (1976) asked subjects to generate sentences from two words provided or read sentences supplied by the experimenter. The former group recalled significantly more words on the post test. Generation required more processing time during learning, but less during the recall test.
Anderson, Goldberg, and Hidde (1971) assert that people often read without bringing to mind the meaning of the words. Complete and incomplete sentences were shown to subjects. Their task was either to read the complete sentence or generate a response to the incomplete sentence. Recall was significantly better for subjects completing the unfinished sentences. The authors state that constructing a response is beneficial to the extent that it provides a more complete understanding of the material.

In paired associate learning, Bobrow and Bower (1969) found that generating a linking sentence using the words resulted in better recall than reading a linking sentence. They concluded that better comprehension of the material results from generating the sentences. Bower and Winzenz (1970) concluded that both recall and recognition in paired associate learning is enhanced by generating linking sentences rather than reading the linking sentences.

Thieman (1973) instructed students to generate meaningful responses paraphrasing a story. Other subjects listened to audiotapes of paraphrasing sentences. Generating the sentences resulted in better recall on a subsequent test.
Finally, Rabinowitz, Mandler and Patterson (1977) found that instructions to generate words in a category led to significantly higher performance on an immediate test of recall than instructions to read a list of words. After one week, the Generation Effect had diminished.

In summary, the empirical studies of the Generation Effect indicate that:

1. Generating responses leads to a higher rate of retention than reading externally supplied material.

2. The Generation Effect occurs in both recall and recognition testing.

3. Meaningful material produces a Generation Effect whereas anomalous material does not.

4. Comprehension of the material is enhanced by generating responses.

These results were consistently found in a wide variety of studies. The persistence of the Generation Effect across methodologies substantiates the robust nature of the phenomenon. The next section of this review describes the theoretical basis of the Generation Effect.
Theoretical Basis of the Generation Effect

Graf (1980, 1981, 1982) asserts that the Generation Effect is attributable to the increased interword organization caused by constructing responses. Two processing strategies are available to the subject. Data driven processing involves perceiving the words as graphemes while conceptually driven processing focuses on organizing the content of the material. Subjects will use the process which requires the least effort (i.e., data driven processing) whenever possible. Graf (1982) states that reading requires only a superficial analysis of the visual features of each word whereas generation focuses more attention on the relationships between words.

Incomplete stimuli interfere with data driven processes. Thus, subjects are required to depend on conceptually driven processes which are guided by the meaning of the words. The conceptually driven processes compensate for the reduced efficiency of the data driven processes. This compensation results in increased interword organization of the material. Subsequent memory for generated responses is better because of the increased meaningful organization of the memory traces.
In conclusion, the Generation Effect is a very useful explanatory mechanism in the present study. Training which requires response generation should result in higher performance than training which involves reading externally supplied responses. The present study focuses on varying two components of Behavior Modeling training -- mode of instruction and mode of skill practice. In the Live skill practice, trainees are forced to generate responses; the CAI/Interactive Video skill practice provides responses from which the trainee must select one. Differences in post-test performance should be found when the modes of skill practice are compared.

The next section of the literature review provides a detailed explanation of the components of Behavior Modeling training. In addition, empirical studies exploring the effectiveness of Behavior Modeling training are reviewed.

**BEHAVIOR MODELING**

In general, research on Behavior Modeling training (Goldstein and Sorcher, 1974) indicates that it effectively teaches interactive skills. Interactive skills consist of rules for effective behavior in different interpersonal situations. A detailed description of Behavior Modeling training follows.
Goldstein and Sorcher (1974) developed a method for teaching interpersonal skills to adults. Their stated goal was "to broaden the trainee's repertoire -- to increase his skill by teaching him useful behaviors . . . and to increase his flexibility by teaching him several skills or alternative behavioral responses to problematic situations." (p. 3). The focus is on changing observable behaviors as opposed to modifying attitudes. Once behavior change occurs, attitude change is likely because people attempt to reduce inconsistencies between what they do and what they believe.

Behavior Modeling utilizes four types of learning activities -- modeling, role playing, reinforcement, and transfer. Each activity is necessary for the training program to be effective.

Modeling

Flanders (1968) defines modeling as occurring "when observation of the behavior of M (the model) . . . affects O (the observer) so that O's subsequent behavior becomes more similar to the observed . . . behavior of M" (p. 316). According to Goldstein and Sorcher (1974), the purpose of modeling in Behavior Modeling training is to teach people what to do. Trainees must attend to and retain the concepts shown in the modeling display. These concepts become
integral parts of the rules for conducting effective interpersonal interactions. Modeling changes behavior, according to Bandura and Walters (1963), because people acquire new responses by watching others behave in novel ways. Once the new set of responses is acquired, performance of the new behaviors will occur if the person believes these new behaviors will be reinforced. The person's expectations concerning the probability of reinforcement are increased when he/she observes the model receiving reinforcement for utilizing the new behaviors.

Modeling has been shown to be effective in reducing subject's fear of snakes (Bandura, Blanchard, and Ritter, 1969), increasing interpersonal openness in a group setting (Whalen, 1969), reducing self-imposed social isolation (O'Connor, 1969), and increasing brainstorming effectiveness (Walter, 1975). Two of these studies (Bandura, Blanchard and Ritter, 1969; Walter, 1975) found that feedback enhanced the effects of modeling.

In Behavior Modeling, videotaped (or live) presentations of a person correctly performing the focal skills are seen by the trainee. Before the modeling display is seen, the skills are often presented as critical steps to alert the trainee to the key behaviors to observe while viewing the model. Frequently, the trainee is asked to identify examples of the critical concepts seen in the modeling display.
Goldstein and Sorcher (1974) suggest several characteristics of the modeling display that enhance its effectiveness. First, the model should be perceived to be:

1. highly competent
2. high status
3. in charge of resources desired by the trainee
4. similar to the trainee in terms of race and sex
5. friendly and helpful
6. rewarded for performing the correct behaviors

Second, behavior in modeling display, whether it is taped or live, should be:

1. vivid
2. detailed
3. ordered from least to most difficult
4. repetitive
5. focused on critical behaviors
6. depicted by several different models
Finally, modeling effects are maximized when the observer is:

1. told to model
2. similar to the model
3. attracted to the model
4. rewarded for engaging in the modeled behaviors

The modeling display in the present study conforms to these criteria. A female model confronting resentment from a male subordinate is depicted in the modeling videotape. While female subjects should find this model similar to themselves, the model's sex may be a potential problem for male subjects. Males may not identify as readily as females with this model. The degree of inhibition for male subjects is probably minimal because the model possesses the other important attributes, including competence, status and friendliness. Male trainees are likely to recognize the realistic nature of the situation and adopt the model's behavior regardless of the model's sex.

One study of Behavior Modeling training focused on the learning processes involved in modeling. Decker (1980) studied the effect of symbolic coding and symbolic rehearsal on modeling. Symbolic coding involves organizing and reducing "the diverse elements of a modeled performance into a pattern of verbal symbols that can be easily stored" (p. 628). Symbolic rehearsal allows participants
to visualize themselves performing the modeled behaviors. Decker found that symbolic rehearsal facilitated both reproduction of modeled events and generalization to new settings. Additionally, trainee-generated rule codes enhanced generalization. Decker's research, while focusing on the modeling component of Behavior Modeling training, can be linked to the research question under investigation in the present study in that both studies compare the efficacy of experimenter-provided versus trainee-generated responses. The results of the Decker (1980) study conform to the predictions of Graf's Generation Effect. Rules generated by the trainee resulted in superior performance when compared to the performance of subjects who read externally supplied rules.

Goldstein and Sorcher (1974) state that "modeling alone is insufficient because, though it yields many positive effects, they are not very enduring effects (p. 35). Role playing the modeled behavior is necessary because it provides an opportunity to practice the behaviors presented in the modeling display.

Role Playing

Janis and King (1954) describe role playing as having persons in a group play specified roles in a simulated life situation. Role playing shows people how to perform new behaviors. Goldstein and
Sorcher (1974) state that behavior change is both greater and more enduring when the role player improvises, rather than uses scripted responses, during the role play. Janis and King (1954) found that role playing produced greater change when the individual displayed a relatively larger amount of improvisation in the role play.

Role playing is an important component of Behavior Modeling training. After viewing the modeling display, the trainees are separated into smaller groups and instructed to practice the critical steps. Kraut (1976) asserts that role playing is the crucial element of Behavior Modeling.

While significant behavioral and attitudial change can occur immediately after role playing, Goldstein and Sorcher (1974) posit that long-term changes do not result from role playing alone. Citing results (Lichtenstein, Keutzer and Himes, 1969) which show no lasting behavioral change after role playing on smoking behavior, Goldstein and Sorcher conclude that role playing is a necessary, but insufficient, behavior change technique. Feedback on the effectiveness of the behaviors exhibited during the role play is required.
Reinforcement

Reinforcement is defined as any event or state that serves to change the likelihood that a given behavior will occur (Goldstein and Sorcher, 1974). Social reinforcers involve praise or approval from others while self-reinforcement derives from the knowledge that one's behavior is correct and accurate.

Positive reinforcement, used to increase the likelihood of desired behaviors, is effective because it informs the participant that a specific behavior is appropriate. Behaviors which are acquired by watching the modeling display are performed due to the reinforcement received by the participant. Therefore, reinforcement affects the performance of learned behaviors.

In Behavior Modeling training, participants are reinforced after, and sometimes during, the role play by the trainer and other trainees. It is essential that the reinforcement be contingent upon effective performance of the desired behaviors. Reinforcement can encourage people with low skill levels to perform more effectively.
Reinforcement provides people with the motivation to perform the new behaviors acquired during the modeling display and practiced during the role play. Behavior Modeling combines modeling, role playing and reinforcement so that the trainee learns what to do, how to do it, and why he/she should do it. Once effective performance is learned, the participant can apply the newly learned behaviors on the job.

Transfer

Transfer of training occurs when behaviors learned during training are put into practice on the job. Goldstein and Sorcher (1974) state that the following four principles increase the likelihood of transfer:

1. Presenting organizing concepts or rules during training that apply to situations encountered on the job.

2. Encouraging overlearning during training.

3. Constructing training to be similar to the job.

4. Providing on-the-job reinforcement.
Thus, transfer is affected by the content of the training program, the procedures used during training, and the environment on the job.

In summary, all of the components of Behavior Modeling are necessary for an effective learning experience. Using training programs which incorporate these components should lead to behavior change. Following is a review of the research on the effectiveness of Behavior Modeling training.

**Effectiveness of Behavior Modeling Training**

Goldstein and Sorcher (1974) report several studies designed to demonstrate the effectiveness of Behavior Modeling training. First, a study of 74 nurses participating in a training program designed to raise their empathy toward patients found that trained nurses were significantly more empathic than nurses in the control group. A significant increase in empathy was also found when pre- and post-test scores for the experimental group were compared. One problem with this study was the nature of the pre- and post-tests. Rather than placing the person in a situation involving an interaction (as was done during the training role play), the nurses were asked to write answers to 30 problem statements. The 30 problems were reviewed during the training and used again on the post-test, with an additional 20 new problems. The results
of this study do not show that the nurses would actually respond with more empathy in an interaction; rather, the results indicate that the nurses could compose written responses that included empathic terms learned during the training program.

Second, Goldstein and Sorcher (1974) studied the effectiveness of a training program for foremen. The productivity of employees working for four trained and four control foremen was analyzed. The level of productivity efficiency was significantly higher for employees of trained foremen than employees of the foremen in the control group. Due to the extremely small sample size used in this study, the results should be interpreted cautiously.

These two studies reported by Goldstein and Sorcher indicate that Behavior Modeling training can change behavior, both immediately after training and later on the job. Other researchers have also studied the effectiveness of Behavior Modeling.

Moses and Ritchie (1976) used performance in an assessment center to determine the effectiveness of their Behavior Modeling pro-
gram. Two matched groups of supervisors were selected. One group received training while the other group did not. After the training was completed, both groups participated in the assessment center. The trained supervisors performed significantly higher than the control group. Using assessment center ratings as
criteria is a very effective training evaluation strategy because it focuses on actual performance in a situation structured to elicit the responses taught during the training program. A pre-test, using parallel forms of the assessment center exercises, would have eliminated competing explanations of the results in the Moses and Ritchie study, such as initial differences in skill level between the experimental and control groups.

Burnaska (1976) also used simulations to assess the effectiveness of Behavior Modeling training. Sixty-two managers were trained; the control group also consisted of 62 managers. Post-training ratings in the simulations showed that trained managers received higher ratings than the control group immediately after training and again four months later. Once again, a pre-test was not included in the research design.

Another study (Byham, Adams, & Kiggins, 1976) compared pre- and post training ratings of supervisory performance. The ratings were made by subordinates of the nine trainees. Ratings were also made by subordinates in a "roughly matched" (p. 347) control group. The results indicate positive changes in ratings after the supervisors completed the training. Also, ratings were higher for the trained group as compared to the control group. The subordinate ratings used in this study are problematical for two reasons. First, it is highly unlikely that each subordinate inte-
acted long enough with his/her supervisor after training to perceive behavioral change. Second, the ratings included both recollections of behavior over the previous year and stories heard by employees from others in their department. The possibility of distorted ratings is great.

Smith (1976) studied the effect of Behavior Modeling training on employee morale, sales, and customer satisfaction. Morale, as measured by both ratings of meeting effectiveness and opinion survey results, was higher in locations having trained supervisors. In addition, a significant increase in sales performance was found for the experimental group which received Behavior Modeling training plus on-the-job team building.

All of the studies described to this point contain design flaws. McGehee and Tullar (1978) expounded upon the problems, citing failure to randomize subjects, selection, and mortality as possible threats to internal validity.

In 1979, Latham and Saari conducted a study to test the effectiveness of Behavior Modeling training. Both the experimental and the control groups consisted of 20 people. Most of the dependent variables, except performance appraisal ratings, were measured only after the training. Results indicate that reaction to the training was highly positive immediately after training and had
not changed significantly eight months later. Also, trained supervisors scored higher than control subjects on both a written test measuring learning and a videotaped role play. Even control group subjects who received the learning points prior to the role play did not score as highly as the trained supervisors. The authors state that "rehearsal enhanced learning as is suggested by social learning theory" (p. 244). Finally, performance appraisal ratings (which did not differ significantly between the control and the experimental groups before training) were significantly higher for trained supervisors one year after the training. All differences in criterion variables disappeared after the control group subsequently participated in the training program. This study provides strong support for the effectiveness of Behavior Modeling training.

In a recent study conducted by Davis and Mount (1984), mid-level managers were trained to conduct effective performance appraisals. Three experimental conditions were included in the study: Computer assisted instruction only, Computer assisted instruction plus a Behavior Modeling workshop and a no-training comparison group. The results indicate that trained managers performed better than untrained managers on two post-test measures of knowledge. Also, trained managers produced higher quality development plans than untrained managers. No difference between trained and untrained managers were found in attitudes toward the
performance appraisal system, quality of documentation of critical incidents and rating errors (halo and leniency). Comparisons between the two types of training were also made. The addition of the Behavior Modeling workshop significantly increased both the quality of the performance appraisal discussion and employee satisfaction with the performance appraisal system, as compared to the computer assisted instruction only group. The authors conclude that CAI alone is appropriate for transmitting knowledge but it is "inadequate for improving performance appraisal communication skills" (p. 449). By adding the Behavior Modeling workshop, these skills were significantly improved.

Sorcher and Spence (1982) conducted a Behavior Modeling training program which was designed to improve race relations between employees and supervisors in South Africa. The authors describe the study as a pilot project; both the experimental and control groups contained six supervisors and their subordinates. The dependent variables were measured at three times: just prior to training, eight weeks after training, and twenty weeks after training. There were no differences between the pre- and either post-measures of attitudes toward blacks. Observed on-the-job behavior also did not differ significantly after training. Responses obtained from structured interviews did show a change after training. The interviews were designed to elicit responses focusing on how close the supervisor's behavior was to the content
of the learning points presented in training. Consistency with the learning points increased significantly at the time of the second post-test, twenty weeks after training. While tentative at best, these results indicate that Behavior Modeling training can have an impact on interpersonal behavior, even in situations as volatile as improving race relations in South Africa.

A recent study (Meyer and Reich, 1983) of Behavior Modeling training found that sales performance, measured six months after training, had increased by 7% for a group of sales representatives while it decreased 3% in the control group. Pre- and post-training comparisons were made. The control group contained 49 subjects while 50 subjects were trained.

Development Dimensions International (DDI) developed a Behavior Modeling training program, Interaction Management, for supervisors. Several studies have investigated the effectiveness of Interaction Management. King and Arlinghaus (1976) rated the performance of supervisors in a role play situation both before and after training. The number of trained supervisors receiving "excellent" or "above average" ratings doubled after training; no increase in performance was found for the control group.
Robinson (1982) summarized much of the research on Interaction Management. The focus of the studies can be separated into four groups: reaction measures, learning measures, on-the-job behavior measures, and organizational results measures. First, a large study using reaction measures, found that 93.5% of the Interaction Management-trained supervisors (N = 8,255) surveyed stated that they were likely to use the skills taught. Ninety-one percent were satisfied with the procedures used in the workshop; the same percentage of employees felt the skills taught in the program were applicable to their jobs. Additionally, a study conducted at Weyerhauser in 1978 (Robinson, 1982, p. 194) found that the positive reactions were sustained eight months after the completion of training.

The second group of Interaction Management studies summarized by Robinson (1982) focused on the amount of learning that occurred during training. A study conducted at Central Telephone Company used videotaped role plays before and after training to assess performance. Before training, 22% of the supervisors were rated as "above average" or "excellent" while 39% were rated "poor" or "below average." After training, 42% of the supervisors received "above average" or "excellent" ratings while none of the subjects were rated "poor" or "below average." In an experiment at Norden Laboratories, average ratings of Leadership in a videotaped simulation went from 1.94 (on a 5-point scale) before training to
2.73 after training. Leadership scores for the control group dropped from 2.53 to 2.08.

Interaction Management research which studied on-the-job use of behaviors taught during training found significant increases in performance after training. Average ratings of supervisory ability made in a study by the Medical Group Management Association rose from 7.90 before training to 9.71 eight months after training (Robinson, 1982). In a study conducted at Agway, employees rated the effectiveness of their supervisor in handling nine specific situations. Ratings were made again six months after training. The results show that in seven of the nine situations, supervisors were rated as being more effective after training.

Finally, the impact of Interaction Management training on organizational results was studied. At the University of Chicago Hospitals and Clinics, trained supervisors rated changes in their work groups. Seventy-seven percent of the supervisors rated both employee production and employee morale as better than before training. Fifty-four percent of the supervisors saw an improvement in employee promptness and 50% reported better employee attendance.

One final study of Behavior Modeling training will be reviewed. Russell, Wexley and Hunter (1984) conducted an experiment designed
to measure four levels of dependent variables: reactions to training, learning, on-the-job behavior change and performance gains. Twenty-two trained and an equal number of untrained managers were included in the study. Results showed that trained subjects reacted positively to the training. There were significant gains in learning, as measured by written responses to structured scenarios, for trained subjects but not control subjects. There was no difference between groups on either behavior change on job which was measured by self and supervisor ratings or on performance measures such as productivity or work standards. The authors state that while the behaviors had been effectively learned during training, more attention to factors affecting transfer is required.

In summary, the research reported above provides convincing support for the effectiveness of Behavior Modeling in the area of interpersonal skills training. Several studies showed increases in effective performance when pre- and post-training ratings were compared. Significant differences in performance between trained and untrained subjects were also found.

The next section of the literature review focuses specifically on the first component of Behavior Modeling training. The initial instruction portion of the training, including the overview, presentation of the critical steps and the modeling display, is investigated. Two modes of instruction -- live versus automated -- are compared.
MODE OF INSTRUCTION

The key distinction between modes of instruction in the present study is the difference between a live, in-class presentation of the introductory training material and an automated, televised presentation of the same material. Both modes of instruction include a videotaped model demonstrating the critical behaviors taught in the module.

Three major reviews of televised instruction (Chu and Schramm, 1967; Romiszowski, 1974; Schramm, 1977) concluded that:

1.) When compared to no-instruction control groups, students receiving televised instruction perform significantly higher on a wide variety of achievement measures.

2.) There is no significant difference in learning between students receiving conventional, in-class instruction and those receiving televised instruction.

These conclusions are based on reviews of more than 100 studies concerning televised instruction.
Chu and Schramm (1967) examined the effectiveness of televised instruction at different levels of education. Comparisons using college students as subjects revealed that in 84 studies, there was no difference in achievement between in-class and televised instruction. In 13 comparisons, face-to-face teaching was superior, while in three comparisons, instructional television produced significantly higher results.

Grouping the studies by subject matter, both Chu and Schramm (1967) and Schramm (1977) concluded that television can effectively teach subjects ranging from Humanities to Mathematics. Chu and Schramm stated that "there is no general area where television cannot be used efficiently to teach the students" (p.10). Gordon (1965) asserts that educational television is useful not only in teaching simple concepts but also in encouraging creativity and stimulating original thinking.

Howe (1983) reported the results of ten years of research at the Open University in England where all courses are taught by correspondence texts and lectures broadcast by television, or radio. Students who watched the broadcasts tended to make higher grades than students who did not view the lectures.
At the Pennsylvania State University, numerous courses are taught by television. A series of more than 60 controlled experimental studies (Adams, Carpenter and Smith, 1958) was conducted to assess the effectiveness of the televised courses. The results showed that there was no difference in student achievement between televised instruction and in-class lectures.

Chu and Schramm (1967) assert that

From what we know on the basis of hundreds of studies, it seems that the question facing educators today concerning instructional television is not whether a teacher can efficiently teach on television. There can no longer be any doubt about this. The question, rather, is how to make the most effective use of television as an instrument of teaching (p.22).

One addition to instructional television that improves performance is practice. The practice must be appropriate to the material being studied (Chu and Schramm, 1967). Behavior Modeling training includes skill practice as a critical component. The following section of this review focuses on the effectiveness of practice in increasing performance levels. By combining modeling and skill practice, as in Behavior Modeling training, training effectiveness is enhanced.
MODE OF SKILL PRACTICE

Two types of skill practice are being investigated in the present study. First, the Live skill practice involves conducting a role play with another person. Responses are generated by the participant in reaction to what is said by the other person during the discussion. Second, the CAI/Interactive Video skill practice utilizes computerized technology to simulate a live interaction. Rather than interacting with a person, the computer directs the videotape machine to produce segments of film. The film shows a person making a statement. Then, the computer produces a set of multiple-choice options from which the trainee selects his/her response. Based upon the participant's response, the program branches to the next appropriate segment of film. This interactive process continues throughout the skill practice.

The critical difference between the two modes of skill practice is the nature of the response required. The Live skill practice involves creating a response while the CAI/Interactive Video skill practice involves reading several options provided by the computer and selecting one.
Live Skill Practice

Live skill practices are frequently used in training programs. Several studies which assess the importance of practicing a skill during training have been conducted. O'Toole (1979) trained graduate counseling students to conduct interviews with clients. The experimental group which practiced the skills by participating in a role play used significantly more of the interviewing skills than the no-practice group. Similar results were obtained by Weinberg, Seabourne and Jackson (1981). Karate students who practiced improved significantly more than students who did not practice. Finally, Nesbitt (1981) found that trainees who practiced assertive behaviors performed significantly better than trainees who listened to a lecture.

Willis and Gueldenpfenning (1981) compared the relative effectiveness of lecture, modeling and practice in training reading tutors. While all three groups used more appropriate behaviors after training, the group that practiced the skills used significantly more appropriate skills than either the lecture or the modeling groups.

While practice alone is an important component of training, research indicates that a combination of modeling and practice results in better performance than either component by itself. Stone and Vance (1976) trained college students in empathic communication. The
group which viewed a model and practiced performed significantly better than either the modeling-only or the rehearsal-only groups. Each of these groups received higher scores than the control group which did not see the model or practice. Allison and Ayllon (1980) combined modeling and practice to train skills in football, gymnastics and tennis. When compared to training programs using only verbal instructions, the students receiving the modeling and practice training performed significantly better in each of the three sports. Finally, Rathus (1972) compared modeling plus practice to a no training control group. The trained group used significantly more assertive behaviors than the control group in an audiotaped post test.

Two major conclusions can be drawn from these studies. First, practice during training enhances skill acquisition. This effect is most obvious when practice and no-practice conditions are compared. Second, combining practice with modeling, as in Behavior Modeling training, produces the largest increase in skill acquisition.

Computer-Assisted Instruction/Interactive Video Skill Practice

Research on Computer-Assisted Instruction (CAI)/Interactive Video focuses primarily on comparing pre- and post-training performance. The components of training (i.e., modeling, practice, feedback) have not been isolated and studied separately in CAI/Interactive Video.
In addition, CAI/Interactive Video training programs have focused on teaching cognitive skills, such as foreign languages or Algebra, rather than interpersonal skills. Thus, this review is limited to reporting briefly some of the major conclusions available.

Comparisons of pre- and post-training scores indicate that CAI/Interactive Video can increase performance levels. Strang and Loper (1983) used this technology to train teaching skills. The teachers used significantly more effective instructional techniques after training. Mallory (1981) developed technical training programs at Ford Motor Company in the areas of electrical, mechanical and fluid power equipment. Trainees used interactive video to proceed through the training program. Results comparing pre and post scores reveal a significant improvement after training. Deaf students (Moore, 1983) improved from a 20% correct response rate before training in Science to an 80% correct response rate after CAI/Interactive Video training. De Bloois, Maki and Hall (1984) reviewed unpublished studies of CAI/Interactive Video. One study, conducted with Army trainees, found significant ($p < .001$) pre/post training differences in ability to troubleshoot vehicle systems problems.

Pilot studies (De Bloois, Maki and Hall, 1984) indicate that CAI/Interactive Video is as effective, and sometimes more effective, than:
1. Watching films on agribusiness
2. Listening to lectures on biology
3. Attending conventional classes on weapon systems.

Comparisons of training time reveal reductions of up to 25% for the CAI/Interactive Video training versus conventional lectures or films (De Bloois, Maki and Hall, 1984).

The studies on CAI/Interactive Video must be interpreted cautiously. Many are pilot studies with very small sample sizes. The general conclusions from this literature are, first, CAI/Interactive Video can effectively increase skills in certain areas; second, this technology is at least as effective as conventional methods of instruction; and, third, CAI/interactive video training usually takes less time to complete than conventional training. These conclusions are similar to those found by researchers in the area of traditional computer-assisted instruction and programmed instruction (Nash, Muczyk and Vettori, 1971; Welsh, Antoinetti and Thayer, 1965; Cavanagh and Jones, 1968; Schwartz and Long, 1967; Dossett and Hulvershorn, 1983). No comparisons between live practice and CAI/Interactive Video practice in interpersonal skills training were found in the literature.
Comparison of Modes of Skill Practice

Why would differences in learning occur from the two modes of skill practice included in the present study? Responses required by the two modes of skill practice differ. In CAI, the learner's freedom of response is restricted (Ripple, Millman, and Glock, 1969). The learner's thinking is forced to conform to the structure of the program. Few opportunities to improvise are available. Two types of responses are possible in CAI: constructed or multiple choice. Skinner (1958, p. 970) asserts that "the student must compose his response rather than select it from a set of alternatives, as in a multiple choice (test)" when using teaching machines. Composing the response requires recall of the concept rather than simple recognition. Roderick and Anderson (1968) conclude that the major difference between item types (constructed and multiple choice) is the level of learning required. While a student would not be able to construct an answer if the response had been poorly learned during training, he/she might be able to pick the correct answer from a list of alternatives. Tobias and Abramson (1971) summarized their research on constructed versus multiple choice responses. Constructed responses led to superior achievement when the material to be learned was unfamiliar to the learner. In 1973, Tobias again found that CAI programs using constructed responses led to superior achievement on the post-test. In summary, the response options available in CAI do not provide a great deal of flexibility to the
learner. Of the two types, constructed responses offer greater opportunities for improvisation than multiple choice responses.

The CAI/interactive video training program presently under study uses multiple choice answers throughout the program. Thus, responses involving the critical steps are read by the trainee. No opportunities for the critical steps to be generated are presented during training. In comparison, the live skill practice requires the student to generate his/her own responses to the situation. Graf's Generation Effect provides a theoretical framework for understanding the differences between the modes of skill practice. The Live skill practice involves generating responses and leads to better retention of material than the externally supplied responses provided by the CAI/Interactive Video skill practice. Performance should be higher in the Live skill practice condition.

**STATEMENT OF HYPOTHESES**

The following hypotheses will be tested in the present study:

1a. Trained subjects in each experimental condition will demonstrate performance gains when pre- and post-training scores are compared.

1b. Untrained control subjects will not demonstrate increased performance when pre/post scores are compared.
1c. Post-training scores for the trained groups will be significantly higher than the post scores for the control group.

2. Performance gains will not be significantly different when the Live Instruction and the Automated Instruction groups are compared.

3. Performance gains will be significantly higher for the Live Skill Practice group as compared to the CAI/Interactive Video Skill Practice group.
CHAPTER TWO: METHOD

The present study is a 2 x 2 factorial design. The effects of type of instruction and type of skill practice on learning will be assessed.

The Graduate School of Business at the University of Pittsburgh offered all of the MBA students the opportunity to attend an eight-week supervisory training program. One-half day each week was required for participation. Student participation was on a volunteer basis. Approximately 25% of the students in both the 1983-84 and the 1984-85 classes participated in the training.

The focus of the present study - the Resolving Conflict Module - was conducted during one of the eight weeks of training. The data collection was conducted over four administrations of the training program (April, 1984; July, 1984; January, 1985 and March, 1985).
SUBJECTS

Ninety-seven MBA students at the University of Pittsburgh, Pittsburgh, Pennsylvania, participated in this study. Twenty students participated in each of the four experimental groups while 17 students were control subjects. Fifty-seven males and forty females participated in the study.

Students were randomly assigned to each of the experimental conditions. Table 1 shows the number of students in each condition at each of the four administrations. During the week prior to the Resolving Conflict module, the experimenter notified each student of the room assignments for the pre-test, the training session, and the post-test. A follow-up memo containing this information was sent to each participant. Three students failed to come to their assigned sessions. These students were dropped from the study. In addition, two students missed the training session. Since pre- and post-training scores were available for these two participants, they were added to the control group.

DESCRIPTION OF INTERACTION MANAGEMENT TRAINING PROGRAM

Interaction Management (IM) is a supervisory skills training program developed by Development Dimensions International according to the principles of Behavior Modeling training. Forty-six modules
### TABLE 1: Number of Students in Each Experimental Condition for Each Administration of the Project

**Number of Students Broken Down by Experimental Condition**

<table>
<thead>
<tr>
<th></th>
<th>Live Instruction/</th>
<th>Live Skill Practice</th>
<th>Automated Instruction/</th>
<th>Automated Instruction/ CAI/IV Skill Practice</th>
<th>Live Skill Practice</th>
<th>CAI/IV Skill Practice</th>
<th>Practice</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>April, 1984</strong></td>
<td>11</td>
<td>--</td>
<td>--</td>
<td>13</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>July, 1984</strong></td>
<td>1</td>
<td>16</td>
<td>5</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>January, 1985</strong></td>
<td>8</td>
<td>4</td>
<td>14</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>March, 1985</strong></td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>7</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
focusing on a wide range of supervisory skills are available. The University of Pittsburgh selected six modules ranging from conducting performance appraisals to managing group meetings for their students. One module, Resolving Conflict, is the focus of this study.

During the first two training sessions, the students received an overview of Interaction Management and practice in giving feedback along with instructions in the key principles. The key principles are behaviors which are critical to effective handling of any type of interaction. They are general behaviors which are to be used, along with specific critical steps presented in each training module, in every type of interpersonal interaction. The key principles are:

2. Listen and respond with empathy.
3. Ask for help in solving a problem.

The third week of training consisted of the Resolving Conflict module. This module is designed to provide specific behavioral steps for diffusing conflict in a work setting. The six critical steps are as follows:

1. Explain what you have observed and why it concerns you.
2. Ask for reasons and listen attentively.

3. Discuss sources of conflict including yourself.

4. Indicate that you understand the employee's feelings.

5. Discuss possible solutions and agree on specific action.

b. Indicate your confidence that the situation will improve.

During training, each critical step is presented along with the rationale for including it. A videotaped model who correctly utilizes the critical steps is observed by the trainees. The final portion of the module provides an opportunity for the participants to practice the critical steps.

PROCEDURE

For each of the four administrations, one week was required to run the project. On Monday the students participated in the pre-test. On Wednesday the training sessions were conducted. The control subjects received instruction in the module by appointment during the week following the Resolving Conflict module. On Friday the post-test was administered.
Manipulation of the Independent Variables

Live Instruction

Groups of three to nine students attended a lecture presentation given by a certified Interaction Management instructor. To obtain certification, the instructor (who was an administrator in the Business Department at the university) attended a one-week training program at Development Dimensions International. Detailed preparation instructions for each module were provided to assist the instructor in planning his presentation.

In the introductory portion of the lecture, the instructor stressed the reasons why resolving conflict is important. The trainees then reviewed the critical steps for resolving conflict. A critical steps card and a workbook were given to each trainee. Finally, the modeling tape was shown.

One in-class lecture was audiotaped to determine the time spent on each phase of the module. The total amount of time required for the Live instruction was 59 minutes. A transcript of the lecture is included in Appendix A. Due to time constraints, discussion of the material is not encouraged by the instructor. The format of the lecture follows the guidelines provided to the trainer. Flip charts showing the critical steps are used as an aid to learning.
Automated Instruction

Students participated individually in the automated instruction condition. Small conference rooms were equipped with an Apple computer, two disc drives, and an interface circuit board connected to a videotape machine and a video monitor. A Koala pad, used by the trainee to input responses, was attached to the computer. Three separate conference rooms were set up so that three students could be trained simultaneously.

Upon arrival, the trainee was seated at the computer and given brief instructions on using the Koala pad. A workbook and a critical steps card were given the trainee. The software disc which controlled the videotaped lecture was then inserted into the disc drive. A transcript of the lecture text is in Appendix B. The total time required to complete the Automated instruction was 63.5 minutes. Table 2 shows the comparison between types of instruction of time spent on each phase of instruction.

During the lecture, the trainee was shown four sets of good and poor examples of the critical steps. He/She was asked to identify which example was the best by pressing the Koala pad. The computer branched to the appropriate section of narration depending upon the answer selected by the trainee.
After the critical steps were reviewed, the modeling tape was shown. During the tape, the trainee was to press the Koala pad every time a critical step was used by the model. At the end of the modeling tape, the trainee reviewed a chart which showed how accurately he/she had identified the critical steps.

Live Skill Practice

Upon completion of the instruction phase of training, each participant went to a small conference room. The room was equipped with a table and two chairs. The experimenter gave the trainee a copy of the skill practice (see Appendix C) and instructed him/her to take five minutes to prepare for the skill practice.

The experimenter played the role of the subordinate. Three hours of practice in playing this role had been provided prior to the start of the project. The trainee acted as the supervisor. The participant was told to "structure the interview any way you want." On average, the skill practice interview lasted 9.65 minutes (SD = .62).

After the skill practice, the experimenter provided feedback on the trainee's performance. The feedback focused on how effectively the trainee utilized the critical steps. Alternate
TABLE 2: Comparison Between Live and Automated Instruction of Time Spent on Learning Points

<table>
<thead>
<tr>
<th></th>
<th>Live Instruction</th>
<th>Automated Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>7</td>
<td>8.5</td>
</tr>
<tr>
<td>Review of Critical Steps</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Modeling Tape</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>59</strong></td>
<td><strong>63.5</strong></td>
</tr>
</tbody>
</table>
positive behaviors were provided in instances where the trainee did not correctly use a critical step. A transcript of a sample feedback session is included in Appendix D.

When the feedback was finished, the subject was dismissed with instructions not to discuss the training session with other participants.

CAI/Interactive Video Skill Practice

A small conference room was equipped with an Apple computer, a Koala pad, two disc drives, and an interface board which controlled the videotape machine. Students were given brief instructions on using the Koala pad before the skill practice began.

The same skill practice as in the Live skill practice mode (see Appendix C) was used. The skill practice began when the subordinate (on the videotape) said, "You insisted you had to talk to me so here I am. What do you want?" A multiple-choice list of four responses then appeared on the monitor. Based upon the participant's choices, the program branched to the appropriate segment of videotape and the "subordinate" responded. The remainder of the skill practice was conducted in this manner. On average, participants took 14.50 minutes to complete the skill practice (SD = 1.01).
The feedback provided at the end of the skill practice depended upon the participant's choices throughout the skill practice. Appendix E contains all possible feedback comments.

After the skill practice was completed, the subjects were dismissed with instructions not to discuss the training session with other participants.

Measurement of the Dependent Variables

Three dependent measures were employed in the present study. First, subjects participated in videotaped interview simulations before and after training. The interview simulation measured recall of critical steps. The simulations (see Appendix F) were counterbalanced so that forty-nine of the subjects used Form A for the pre-test while forty-eight used Form B. The two forms of the interview simulation were developed to be parallel. Table 3 lists the common characteristics of the two forms. Two trained role players from Development Dimensions International played the role of the subordinate; the participants assumed the role of the supervisor. The role players were, in general, not aware of the experimental conditions. In several instances, they were able to guess the experimental condition based upon comments made by the participant (such as, "I really enjoyed working with the computer on Wednesday"). The role player's responses were scripted so that performance across subjects would be consistent. The role players
were instructed to provide similar responses to questions to minimize the possibility of contamination. Participants were allowed five minutes to prepare for the interview. Up to 15 minutes was allotted for the simulation, but the average length of the videotaped interview was slightly under 10 minutes.

The videotapes were scored by a trained assessment center evaluator who was blind to the experimental manipulations. She assessed the tapes for three measures of performance: number of critical steps used, effectiveness of critical steps, and an overall rating. Scores for the number of critical steps used could range from 0 to 6. The effectiveness of critical steps used was rated according to the following scale:

1 -- Less than Acceptable  
2 -- Acceptable  
3 -- More than Acceptable

Finally, the Overall rating was made on a five-point scale ranging from "Much less than Acceptable" to "Much more than Acceptable".

Five tapes were randomly selected and evaluated by the experimenter. Table 4 shows the interrater reliability coefficients obtained.
Each participant received a feedback report showing his/her performance in the pre and post interview simulations. A sample report is included in Appendix G.

The second dependent measure was a multiple-choice achievement test (see Appendix H). This instrument measures recognition of the critical steps. After the test was developed, three Interaction Management Master Trainers completed the test. Items which were confusing to them were re-worded. All three of the master trainers were able to identify the correct response for each item based upon their knowledge of the Resolving Conflict module. The achievement test was administered immediately before the videotaped interview simulation post-test. For the April, 1984, administration, the test was completed two months after training. Scores could range from 0 to 7 correct. The reliability estimate (Coefficient Alpha) for the achievement test was .56.
TABLE 3: Common Characteristics of the Two Forms of the Interview Simulation

• Supervisor and subordinate were hired at same time.

• Both were good performers.

• Supervisor was recently promoted.

• Four behavioral problems have occurred since the promotion.

• Resentment of recent promotion by subordinate.
### TABLE 4: Interrater Reliability Coefficients — Interview Simulation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Critical Steps Used</td>
<td>.96</td>
</tr>
<tr>
<td>Effectiveness of Critical Steps</td>
<td>.89</td>
</tr>
<tr>
<td>Overall Rating</td>
<td>.85</td>
</tr>
</tbody>
</table>
The final dependent measure was a reaction survey administered immediately after the training session. The instrument uses a Likert-type five-point scale with options ranging from Strongly Disagree to Strongly Agree. A copy is included in Appendix I. This instrument was not given to the control subjects.

Appendix J contains the correlations between each of the dependent measures. Moderate correlations were found between the interview simulation variables and the achievement test score. The reaction survey items were, in general, highly interrelated.
CHAPTER THREE: RESULTS

This chapter is partitioned into three major sections. In the first section, the pre-training manipulations are examined. In the second section, results of tests of the major hypotheses are reported. Finally, the third section focuses on auxiliary findings, not considered primary research issues in the design of the present study. Regarding a decision rule for significance levels, probabilities below .05 are considered significant while those between .05 and .10 considered marginally significant.

PRE-TRAINING MANIPULATIONS

Three dependent variables (number of critical steps used, effectiveness of critical steps used, and overall rating) were the
focus of the pre-training analysis. Due to the random assignment of subjects to experimental conditions, no differences in scores between the conditions on the pre-training manipulations were expected. Table 5 displays the means and standard deviations for each dependent variable broken down by experimental condition. Comparisons reveal that the Automated Instruction/CAI-Interactive Video skill practice group scored significantly higher than the Live Instruction/CAI-Interactive Video Skill practice group (F=2.64, df=4,90, p < .05) on the number of critical steps used in the pretraining interview simulation.

The differences in skill on the pre-training variable indicate that the Automated Instruction/CAI-Interactive Video skill practice group performed at a higher level on one of the variables. To address this problem, three additional dependent measures were created. First, the difference between the number of critical steps used before and after training was calculated. Second, the differences in effectiveness of critical steps used between the pre- and post-training assessments were computed. Finally, the difference in pre- and post-training overall ratings was calculated. The three difference scores represent the amount of gain in skills after training. These gain scores will be analyzed in the following section which focuses upon the testing of the hypotheses.
<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Live Instruction</th>
<th>Live Skill Practice</th>
<th>Automated Instruction</th>
<th>Automated Instruction</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAI/IV Skill Practice</td>
<td>Live Skill Practice</td>
<td>CAI/IV Skill Practice</td>
<td>CAI/IV Skill Practice</td>
<td></td>
</tr>
<tr>
<td>Number of Critical Steps Used</td>
<td>2.80 (0.89)</td>
<td>2.42 (1.07)</td>
<td>2.61 (0.72)</td>
<td>3.40 (1.39)</td>
<td>2.86 (1.41)</td>
</tr>
<tr>
<td>Effectiveness of Critical Steps Used</td>
<td>1.60 (0.60)</td>
<td>1.60 (0.50)</td>
<td>1.53 (0.51)</td>
<td>1.70 (0.57)</td>
<td>1.53 (0.64)</td>
</tr>
<tr>
<td>Overall Rating</td>
<td>1.90 (1.02)</td>
<td>1.45 (0.67)</td>
<td>1.70 (0.73)</td>
<td>2.20 (1.20)</td>
<td>2.00 (1.13)</td>
</tr>
</tbody>
</table>

NOTE: Values presented are means and, in parentheses, standard deviations.
TESTS OF HYPOTHESES

It was predicted that trained subjects in each of the experimental would demonstrate performance gains when pre- and post-training scores were compared (Hypothesis 1a). Tables 6 through 9 display the pre- and post-training descriptive statistics for each experimental condition. As can be seen from the results, each dependent variable in each experimental condition was significantly higher after training. Thus, Hypothesis 1a is supported by the data.

Hypothesis 1b states that untrained control subjects will not demonstrate increased performance when pre/post scores are compared. Table 10 presents the results of this analysis. The data fail to refute the null hypothesis. No significant differences were found in any of the dependent measures. In addition, this provides evidence that a testing effect was not apparent in the present study. Taking the pre-test without training did not increase post-test scores.

It was predicted that the trained subjects (all conditions combined) would perform significantly better on the post-test measures than the control group. Table 11 summarizes the results. For each of the dependent variables, trained subjects performed significantly better than those who were not trained. Hypothesis 1c is supported by the results of this analysis.
TABLE 6: Pre- and Post-Training Descriptive Statistics
For Major Dependent Variables --
Live Instruction/Live Skill Practice Condition (N=20)

<table>
<thead>
<tr>
<th>DEPENDENT VARIABLES</th>
<th>X</th>
<th>SD</th>
<th>df</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Critical Steps Used</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Training</td>
<td>2.80</td>
<td>.89</td>
<td>19</td>
<td>7.50**</td>
</tr>
<tr>
<td>Post-Training</td>
<td>4.90</td>
<td>1.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness of Critical Steps Used</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Training</td>
<td>1.60</td>
<td>.60</td>
<td>19</td>
<td>2.10*</td>
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<tr>
<td>Post-Training</td>
<td>1.95</td>
<td>.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Rating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Training</td>
<td>1.90</td>
<td>1.02</td>
<td>19</td>
<td>5.09**</td>
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<tr>
<td>Post-Training</td>
<td>3.40</td>
<td>1.27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* (p < .05)
** (p < .01)
TABLE 7: Pre- and Post-Training Descriptive Statistics for Major Dependent Variables -- Live Instruction/CAI-Interactive Video Skill Practice (N=20)

<table>
<thead>
<tr>
<th>DEPENDENT VARIABLES</th>
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<th>df</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Critical Steps Used</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Training</td>
<td>2.42</td>
<td>1.07</td>
<td>19</td>
<td>7.01*</td>
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<tr>
<td>Post-Training</td>
<td>4.68</td>
<td>1.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness of Critical Steps Used</td>
<td></td>
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<td>1.60</td>
<td>.50</td>
<td>19</td>
<td>5.25**</td>
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<td>Post-Training</td>
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<td>.59</td>
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<tr>
<td>Overall Rating</td>
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<td></td>
</tr>
<tr>
<td>Pre-Training</td>
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<td>.69</td>
<td>19</td>
<td>8.54**</td>
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* (p < .05)  
** (p < .01)
TABLE 8: Pre- and Post-Training Descriptive Statistics for Major Dependent Variables -- Automated Instruction/Live Skill Practice (N=20)

<table>
<thead>
<tr>
<th>DEPENDENT VARIABLES</th>
<th>X</th>
<th>SD</th>
<th>df</th>
<th>T</th>
</tr>
</thead>
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<td><strong>Number of Critical Steps Used</strong></td>
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<td></td>
<td></td>
<td></td>
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<td>Pre-Training</td>
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<td>.85</td>
<td>19</td>
<td>10.14**</td>
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<td>1.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Effectiveness of Critical Steps Used</strong></td>
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<td>1.53</td>
<td>.51</td>
<td>19</td>
<td>4.38**</td>
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<td>Post-Training</td>
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<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Overall Rating</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Training</td>
<td>1.70</td>
<td>.73</td>
<td>19</td>
<td>7.04**</td>
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<tr>
<td>Post-Training</td>
<td>3.80</td>
<td>1.36</td>
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</table>

* (p < .05)
** (p < .01)
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<th>SD</th>
<th>df</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Critical Steps Used</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Training</td>
<td>3.40</td>
<td>1.39</td>
<td>19</td>
<td>3.94**</td>
</tr>
<tr>
<td>Post-Training</td>
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<td>1.48</td>
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<tr>
<td>Effectiveness of Critical Steps Used</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pre-Training</td>
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<td>.57</td>
<td>19</td>
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<tr>
<td>Post-Training</td>
<td>2.00</td>
<td>.56</td>
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<td></td>
</tr>
<tr>
<td>Overall Rating</td>
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<td>Pre-Training</td>
<td>2.20</td>
<td>1.20</td>
<td>19</td>
<td>4.21**</td>
</tr>
<tr>
<td>Post-Training</td>
<td>3.50</td>
<td>1.54</td>
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</table>

* (p < .05)
** (p < .01)
<table>
<thead>
<tr>
<th>DEPENDENT VARIABLES</th>
<th>X</th>
<th>SD</th>
<th>df</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Critical Steps Used</td>
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<td></td>
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<td>16</td>
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<tr>
<td>Post-Training</td>
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<td>1.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness of Critical Steps Used</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Training</td>
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<td>.64</td>
<td>16</td>
<td>.37</td>
</tr>
<tr>
<td>Post-Training</td>
<td>1.60</td>
<td>.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Rating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Training</td>
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<td>1.13</td>
<td>16</td>
<td>.41</td>
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<tr>
<td>Post-Training</td>
<td>1.87</td>
<td>1.25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* (p < .05)  
** (p < .01)
The remainder of this section will focus on Hypotheses 2 and 3. Specifically, Hypothesis 2 predicted that no differences in performance would be found when the two modes of instruction (Live versus Automated) are compared. Table 12 displays the F-test results for the following post-training dependent measures: Number of Critical Steps Used, Effectiveness of Critical Steps Used, Overall Rating, and the Number Correct on Multiple-Choice Achievement test. Table 13 presents the analysis of the gain scores. The descriptive statistics for the dependent measures are displayed in Tables 6, 7, 8, 9, 14, and 15. No main effect for Mode of Instruction was found for any of the dependent variables. These results fail to refute null hypothesis. Power analysis results indicate that, with the present sample size, a medium effect size can be detected with a power of .85 (alpha = .05). The design has sufficient power to detect significant results if they occur.

Hypothesis 3 predicts a main effect for mode of skill practice. According to Grafs' Generation Effect, performance should be higher in the Live skill practice group. This effect was found only for one dependent variable (see Table 13). Gains in the number of critical steps used were significantly greater (p<.05) for subjects participating in a Live skill practice as compared to those participating in the CAI/Interactive Video skill practice. Additionally, while marginally significant, the results for the number correct on the multiple-choice achievement test reflect the same trend. Thus, Hypothesis 3 received partial support.
TABLE 11: Comparison of Total Trained Versus Untrained Subjects on Major Dependent Variables

<table>
<thead>
<tr>
<th>DV</th>
<th>IV</th>
<th>SS</th>
<th>df</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Critical Steps Used</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trained</td>
<td></td>
<td>4.19</td>
<td>1</td>
<td>22.95</td>
<td>.01</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>164.39</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness of Critical Steps Used</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Trained</td>
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<td>5.86</td>
<td>.05</td>
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<tr>
<td>Error</td>
<td></td>
<td>34.24</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Rating</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trained</td>
<td></td>
<td>28.40</td>
<td>1</td>
<td>15.87</td>
<td>.01</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>161.04</td>
<td>91</td>
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</table>
TABLE 12: F-Test Results for Post-Training Dependent Measures

<table>
<thead>
<tr>
<th>DV</th>
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<th>SS</th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CS Used</td>
<td>Mode of Instruction</td>
<td>1.51</td>
<td>1</td>
<td>.18</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Mode of Skill Practice</td>
<td>.32</td>
<td>1</td>
<td>.85</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Instruction x Skill Practice</td>
<td>.12</td>
<td>1</td>
<td>.07</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>133.54</td>
<td>76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness of CS Used</td>
<td>Mode of Instruction</td>
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<td>1</td>
<td>.03</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Mode of Skill Practice</td>
<td>.10</td>
<td>1</td>
<td>.27</td>
<td>ns</td>
</tr>
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<td></td>
<td>Instruction x Skill Practice</td>
<td>2.17</td>
<td>1</td>
<td>5.58</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>29.18</td>
<td>76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Rating</td>
<td>Mode of Instruction</td>
<td>.40</td>
<td>1</td>
<td>.22</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Mode of Skill Practice</td>
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<td>1</td>
<td>.02</td>
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<td></td>
<td>Instruction x Skill Practice</td>
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<td>.93</td>
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<td></td>
<td>Error</td>
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<td>76</td>
<td></td>
<td></td>
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<td>Number Correct on Multiple Choice</td>
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<td>0</td>
<td>ns</td>
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<td>Mode of Skill Practice</td>
<td>3.96</td>
<td>1</td>
<td>2.61</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>Instruction x Skill Practice</td>
<td>1.93</td>
<td>1</td>
<td>1.27</td>
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<tr>
<td></td>
<td>Error</td>
<td>98.81</td>
<td>65</td>
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</table>
TABLE 13: F-Test Results for Gain Scores

<table>
<thead>
<tr>
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<th>SS</th>
<th>DF</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
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<td>1.73</td>
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<tr>
<td></td>
<td>Mode of Skill Practice</td>
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<td>1</td>
<td>6.39</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Instruction x Skill Practice</td>
<td>11.17</td>
<td>1</td>
<td>6.56</td>
<td>.05</td>
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<td></td>
<td>Error</td>
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<td>76</td>
<td></td>
<td></td>
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<td>Difference in Effectiveness of Critical Steps Used</td>
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<td>1</td>
<td>.37</td>
<td>ns</td>
</tr>
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<td></td>
<td>Mode of Skill Practice</td>
<td>.05</td>
<td>1</td>
<td>.09</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Instruction x Skill Practice</td>
<td>2.45</td>
<td>1</td>
<td>4.51</td>
<td>.05</td>
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<td></td>
<td>Error</td>
<td>41.30</td>
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<td></td>
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<td>Difference in Overall Rating</td>
<td>Mode of Instruction</td>
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<td>.20</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Mode of Skill Practice</td>
<td>.09</td>
<td>1</td>
<td>.06</td>
<td>ns</td>
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<td>Instruction x Skill Practice</td>
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<td>1</td>
<td>7.08</td>
<td>.01</td>
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<tr>
<td></td>
<td>Error</td>
<td>129.93</td>
<td>76</td>
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</table>
TABLE 14: Descriptive Statistics for Gain Scores
Broken Down by Experimental Condition

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<th>EXPERIMENTAL CONDITION</th>
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<td>Automated Instruction</td>
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</tr>
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<td>Live Skill Practice</td>
<td>CAI/IV Skill Practice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
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<td>SD</td>
<td>( \bar{X} )</td>
<td>SD</td>
<td>( \bar{X} )</td>
<td>SD</td>
<td>( \bar{X} )</td>
</tr>
<tr>
<td>Difference in Overall Rating</td>
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<td>1.30</td>
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<td>Difference in Effectiveness of Critical Steps Used</td>
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<td>.75</td>
<td>.64</td>
<td>.60</td>
<td>.94</td>
<td>.30</td>
</tr>
<tr>
<td>Difference in Number of Critical Steps Used</td>
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<td>1.25</td>
<td>2.40</td>
<td>1.50</td>
<td>2.75</td>
<td>1.29</td>
<td>1.35</td>
</tr>
</tbody>
</table>
TABLE 15: Descriptive Statistics for Number Correct on Multiple-Choice Achievement Test Broken Down by Experimental Condition

Experimental Condition

<table>
<thead>
<tr>
<th>Experimental Condition</th>
<th>Live Instruction</th>
<th>Live Instruction</th>
<th>Automated Instruction</th>
<th>Automated Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Live Skill Practice</td>
<td>CAI-IV Skill Practice</td>
<td>Live Skill Practice</td>
<td>CAI-IV Skill Practice</td>
</tr>
<tr>
<td>( \bar{x} )</td>
<td>4.67</td>
<td>3.90</td>
<td>4.35</td>
<td>4.20</td>
</tr>
<tr>
<td>SD</td>
<td>1.29</td>
<td>1.33</td>
<td>1.23</td>
<td>1.01</td>
</tr>
</tbody>
</table>
Four unexpected interactions occurred. First, with reference to the effectiveness of the critical steps used in the post-test, Figure 1 displays the interaction. While type of skill practice had no differential effect in the automated instruction groups, CAI/Interactive Video skill practice resulted in significantly higher (Sheffe test results: $F_{\text{observed}} = 4.11; F_{\text{critical}} = 3.92, \text{df} = 1, 76 \text{ alpha} = .05$) effectiveness scores than Live skill practice in the Live instruction condition. The $\omega^2$ value for this interaction was .06.

Figure 2 shows the interaction effect which resulted when the difference in number of critical steps used was analyzed. The results indicate that Live skill practice participants demonstrated significantly higher ($F_{\text{observed}} = 10.01; F_{\text{critical}} = 3.92, \text{df} = 1, 76 \text{ alpha} = .05$) gains than CAI/Interactive Video skill practice subjects in the Automated instruction condition. Eight percent of the variance was accounted for by this interaction.

Identical patterns emerge in Figures 3 and 4. For the CAI/Interactive Video skill practice conditions, Live instruction resulted in significantly higher scores on both the difference in effectiveness of critical steps used ($F_{\text{observed}} = 3.73; F_{\text{critical}} = 2.92, \text{df} = 1, 76, \text{alpha} = .10, \omega^2 = .05$) and difference in overall ratings ($F_{\text{observed}} = 4.80; F_{\text{critical}} = 3.92, \text{df} = 1, 76, \text{alpha} = .05, \omega^2 = .08$).
FIGURE 1: INTERACTION OF MODE OF INSTRUCTION AND MODE OF SKILL PRACTICE ON EFFECTIVENESS OF CRITICAL STEPS USED

EFFECTIVENESS OF CRITICAL STEPS USED

LIVE SKILL PRACTICE
CAI / IV SKILL PRACTICE

MODE OF INSTRUCTION
FIGURE 2: INTERACTION OF MODE OF INSTRUCTION
AND MODE OF SKILL PRACTICE
ON DIFFERENCE IN NUMBER OF CRITICAL STEPS USED

DIFFERENCE IN NUMBER OF CRITICAL STEPS USED

LIVE INSTRUCTION

AUTOMATED INSTR
FIGURE 3: INTERACTION OF MODE OF INSTRUCTION AND MODE OF SKILL PRACTICE ON DIFFERENCE IN EFFECTIVENESS OF CS USED
FIGURE 4: INTERACTION OF MODE OF INSTRUCTION 
AND MODE OF SKILL PRACTICE 
ON DIFFERENCE IN OVERALL RATING

DIFFERENCE IN OVERALL RATING

LIVE SKILL PRACTICE

CAI/IV SKILL PRACTICE

0 1 2 3 4 5
LIVE INSTRUCTION

MODE OF INSTRUCTION

AUTOMATED INSTR
AUXILIARY ANALYSES

Reaction questionnaires were distributed to subjects after they participated in the training sessions. Table 16 shows the descriptive statistics for the items broken down by experimental condition. See Appendix I for complete item context. Three items (see Table 17) showed a main effect for skill practice. First, subjects participating in the live skill practice believed significantly more strongly than the CAI/Interactive Video skill practice subjects that there was enough skill practice in the module, although both groups participated in the same number of skill practices. Second, trainees participating in the CAI/Interactive Video skill practice more strongly believed there was not enough feedback given following the feedback session. Finally, Live skill practice participants felt significantly more strongly that they developed their own responses in the skill practice session.

In addition, one significant interaction was observed. Participants in the Live instruction/CAI-Interactive Video skill practice group rated the amount of skill practice provided in the module significantly lower than any of the other experimental groups.
A measure of familiarity with the training material was included in the reaction questionnaire. A marginally significant effect ($F=4.31$, $p<.08$) was found for mode of skill practice. Participants in the CAI/Interactive Video skill practice group were more familiar with the content of the module.
<table>
<thead>
<tr>
<th>ITEM</th>
<th>Live Instruction/ Live Skill Practice</th>
<th>Live Instruction/ CAI/IV Skill Practice</th>
<th>Auto. Instruction Live Skill Practice</th>
<th>Auto. Instruction CAI/IV Skill Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The videotaped model helped me understand ...</td>
<td>4.45 .51</td>
<td>4.11 .74</td>
<td>4.35 .75</td>
<td>4.45 .51</td>
</tr>
<tr>
<td>2. I'll be better to resolve conflict ...</td>
<td>4.55 .51</td>
<td>4.58 .51</td>
<td>4.55 .76</td>
<td>4.60 .50</td>
</tr>
<tr>
<td>3. ... Enough skill practice in this module</td>
<td>3.95 .83</td>
<td>2.58 1.12</td>
<td>3.60 .82</td>
<td>3.45 1.05</td>
</tr>
<tr>
<td>4. Materials ... easy to understand</td>
<td>3.95 .76</td>
<td>4.42 .51</td>
<td>4.25 .72</td>
<td>4.20 .57</td>
</tr>
<tr>
<td>5. Ample time to review ...</td>
<td>4.10 .55</td>
<td>4.16 .90</td>
<td>4.35 .75</td>
<td>4.40 .68</td>
</tr>
<tr>
<td>6. Not enough feedback was given following skill practice ...</td>
<td>2.05 .94</td>
<td>2.32 .82</td>
<td>1.90 .72</td>
<td>2.37 .90</td>
</tr>
</tbody>
</table>

TABLE 16: Descriptive Statistics for Reaction Questionnaire Items Broken Down by Experimental Condition
<table>
<thead>
<tr>
<th>ITEM</th>
<th>Live Instruction/ Live Skill Practice</th>
<th>Live Instruction/ CAI/IV Skill Practice</th>
<th>Auto. Instruction Live Skill Practice</th>
<th>Auto. Instruction CAI/IV Skill Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{x} ) SD</td>
<td>( \bar{x} ) SD</td>
<td>( \bar{x} ) SD</td>
<td>( \bar{x} ) SD</td>
</tr>
<tr>
<td>7.</td>
<td>Use critical steps card during skill practice</td>
<td>3.85 1.09</td>
<td>3.47 .90</td>
<td>4.15 .93</td>
</tr>
<tr>
<td>8.</td>
<td>Introduction provided clear description</td>
<td>4.40 .50</td>
<td>4.37 .50</td>
<td>4.40 .50</td>
</tr>
<tr>
<td>9.</td>
<td>Skill practice required me to develop responses</td>
<td>4.25 .64</td>
<td>2.74 .99</td>
<td>4.15 .99</td>
</tr>
<tr>
<td>10.</td>
<td>Feedback after skill practice ... clear</td>
<td>4.20 .70</td>
<td>4.11 .66</td>
<td>4.20 .62</td>
</tr>
<tr>
<td>11.</td>
<td>Enjoyed module</td>
<td>4.35 .49</td>
<td>4.26 .73</td>
<td>4.40 .68</td>
</tr>
</tbody>
</table>
### TABLE 17: F-Test Results for Reaction Questionnaire Items

<table>
<thead>
<tr>
<th>DV</th>
<th>IV</th>
<th>SS</th>
<th>DF</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q.3-Enough Skill</td>
<td>Mode of Instruction</td>
<td>2.32</td>
<td>1</td>
<td>2.76</td>
<td>ns</td>
</tr>
<tr>
<td>Practice</td>
<td>Mode of Skill Practice</td>
<td>6.87</td>
<td>1</td>
<td>8.16</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Instruction x Skill Practice</td>
<td>7.03</td>
<td>1</td>
<td>8.34</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>54.77</td>
<td>65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q.6-Not Enough</td>
<td>Mode of Instruction</td>
<td>.05</td>
<td>1</td>
<td>.07</td>
<td>ns</td>
</tr>
<tr>
<td>Feedback</td>
<td>Mode of Skill Practice</td>
<td>2.63</td>
<td>1</td>
<td>3.65</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>Instruction x Skill Practice</td>
<td>.20</td>
<td>1</td>
<td>.28</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>53.28</td>
<td>74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q.9-Develop</td>
<td>Mode of Instruction</td>
<td>.46</td>
<td>1</td>
<td>.48</td>
<td>ns</td>
</tr>
<tr>
<td>Responses</td>
<td>Mode of Skill Practice</td>
<td>31.01</td>
<td>1</td>
<td>32.06</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Instruction x Skill Practice</td>
<td>1.30</td>
<td>1</td>
<td>1.34</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>72.53</td>
<td>75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER FOUR: DISCUSSION

This section will focus primarily on the interpretation of the results obtained in the present study. Each of the hypotheses will be explored. Suggestions for future research are included.

INTERPRETATION OF RESULTS

Behavior Modeling Training

It was predicted that Behavior Modeling training would result in significant improvements in performance for trained subjects when pre- and post-training scores were compared. Untrained control subjects were not expected to improve. The results support these predictions. For each of the dependant variables, including the number of critical steps used in the interview simulation, the effectiveness of critical steps used and the overall rating of performance, trained subjects scored significantly higher on the post
test than on the pre test. This effect occurred across both modes of instruction and both modes of skill practice. No change in performance was observed for the control subjects.

Additionally, all trained subjects combined were expected to perform significantly better than the control subjects when post test performance was compared. The results follow this prediction for each of the dependent measures.

Using the utility analysis formula derived by Schmidt, Hunter and Pearlman (1982), the dollar impact of training can be assessed. Estimates of the dollar value of the training program were calculated by comparing the total trained group to the control group on each of the post-training dependent measures. The value of the training program is as follows for each dependent measure:

$1,763,200.00  --  Effectiveness of Critical Steps Used  
$2,008,000.00  --  Number of Critical Steps Used  
$2,355,200.00  --  Overall Rating

As can be seen, the Behavior Modeling training programs are quite valuable in monetary terms.
In summary, Behavior Modeling training is an effective approach to teaching interpersonal skills. This supports the results obtained by other researchers (Goldstein and Sorcher, 1974; Moses and Ritchie, 1976; Burnaska, 1976; Byham, Adams and Kiggins, 1976; Latham and Saari, 1979; Robinson, 1982; Meyer and Reich, 1983). As long as the components of modeling, skill practice and feedback are included in the training program, performance will increase. Behavior Modeling training is very resilient in that it is able to accommodate different modes of instruction and skill practice and still result in gains in performance.

Mode of Instruction

Based upon results of comparisons between televised and live instruction consistently found in the literature (Chu and Schramm, 1967; Schramm, 1977), it was predicted that no significant difference in performance would be found when the two modes of instruction were compared. The results of the present study correspond to this prediction. For both types of instruction, performance levels were increased after training but neither mode of instruction resulted in significantly higher performance.

Behavior Modeling training programs utilizing automated instruction, while expensive to develop, may prove cost effective in the long run
because

1. live trainers to conduct each class are not required
2. training can be provided individually at the time when the trainee needs it the most.

Since both modes of instruction are equally effective in increasing performance, greater flexibility in program design is possible.

Mode of Skill Practice

The Live skill practice group was expected to show significantly greater gains in performance than the CAI/Interactive Video skill practice group. Graf's Generation Effect (Slamecka and Graf, 1978; Graf, 1980; Graf, 1981; Graf, 1982) provided theoretical support for this prediction by stating that generating responses leads to better retention of the material than reading answers supplied by the experimenter. This generation versus read distinction is one of the major differences between the modes of skill practice included in the present study. The results of the reaction item pertaining to subject's perceptions about the degree to which they developed their own responses indicate that subjects in the Live skill practice believed significantly more strongly that they had generated their own answers. The generation/read manipulation had been effectively implemented.
Partial support was found for the Generation Effect. First, the gain in the number of critical steps used was significantly greater (p < .05) for the Live skill practice group than for the CAI/Interactive Video skill practice group. Recall is measured by this dependent variable. Second, results from the multiple-choice achievement test indicate that, while significant only at the .10 level, Live skill practice subjects answered more of the items correctly. The achievement test measures recognition memory. Thus, as Graf and his associates found, the Generation Effect applies to both recall and recognition memory.

ADDITIONAL RESULTS

Several significant interactions unexpectedly occurred. No consistent patterns emerged but several tentative conclusions may be stated. The Live Instruction/CAI-Interactive Video group received higher effectiveness of critical steps used ratings than the Live Instruction/Live skill practice group. Also, the Automated Instruction/Live Skill practice group received higher gain scores for number of critical steps used than the Automated Instruction/CAI-Interactive Video skill practice participants. Finally, the Live Instruction/CAI-Interactive Video participants received higher gain scores for both the effectiveness of critical steps used and the overall rating than the Automated Instruction/CAI-Interactive Video participants. The contrast between presentation formats in the Live
instruction and CAI/Interactive Video skill practice and in the Automated instruction and Live skill practice may have accounted for the higher performance levels. The novelty of the different format may have focused attention and increased learning. Since the interactions accounted for only a small portion of the variance in the dependent measures, they are probably not critical factors to consider.

While these findings do not pertain to the major hypotheses of this study, it may be an important factor for developers of computerized instruction. It may be necessary to vary the type of instruction and the type of skill practice to maintain a high degree of interest in the training program. Due to the equality of modes of instruction and the possible superiority of live skill practices over computerized ones, the best training combination may be Automated Instruction with Live skill practices.

LIMITATIONS OF THE PRESENT STUDY

In the present study, the Generation Effect was not found for several post-training dependent variables, specifically, the number of critical steps used, the effectiveness of the critical steps used and the overall rating. Several factors could account for the absence of
the Generation Effect. First, the Automated Instruction/CAI-Interactive Video group received higher scores on several of the pre-test variables. Thus, they started out with an advantage over the other groups. A lesser amount of improvement was required for the Automated Instruction/CAI-Interactive Video skill practice group to attain the same level of performance on the post test as the Live skill practice groups. The gain scores which were calculated take into account the difference in pre-training performance levels; the gain score for number of critical steps used showed significantly better performance for the Live skill practice groups. Second, the Automated Instruction/CAI-Interactive Video skill practice participants rated themselves significantly higher on familiarity with the content of the Resolving Conflict module. It is possible that in their prior exposure to this type of material, they were required to generate responses. Their scores would then be expected to be higher on the pre-test and comparable on the post test to the Live skill practice group. Since no measure of the type of previous learning was made for the Automated Instruction/CAI-Interactive Video group, this explanation is quite speculative in nature.

Third, the CAI/Interactive Video skill practice groups could have generated their own responses during the skill practice session and then identified the correct response supplied by the computer. Informal interviews with some of the participants indicate that this was the procedure used by several people during the skill practice.
The benefits in terms of increased performance of generating responses would thereby be found for the CAI/Interactive Vidéo skill practice subjects.

Fourth, the nature of the response required in the present study is more complex than the responses required in the series of studies conducted by Graf. Entire responses consisting of applications of critical steps, rather than simple word or sentence responses were required during the skill practice. The nature of the response may have forced people to generate responses, even in the CAI/Interactive Video skill practice.

Fifth, the post test was not conducted immediately after training. Two days elapsed between training and the post test. As in the Rabinowitz, Mandler and Patterson (1977) study, the Generation Effect may have diminished over time.

Sixth, rating problems may have reduced the Generation Effect. Specifically, a ceiling effect was observed for the post test dependent variables. All of the groups received performance ratings near the top of the scale thereby reducing the likelihood of being able to detect significant differences between the groups. Finally, there may not have been sufficient power in the research design to detect significant differences among groups.
In summary, there was partial support for the existence of the Generation Effect. This occurred for the gain in number of critical steps used, a score which accounted for pre-test differences in level of performance. Possible explanations have been provided for the absence of the Generation Effect in several of the dependent measures. Future research should more systematically investigate the manner in which the CAI/Interactive Video groups responded during the skill practice.

FUTURE RESEARCH

Several modifications to the present research design would aid understanding of the Generation Effect. First, subjects should be systematically surveyed concerning their method of responding in the skill practice. It should be determined if subjects in the CAI/Interactive Video condition are only reading responses or if they are generating responses and then selecting the computerized response which corresponds most closely to their own. Second, an additional experimental condition could be added to the study. Subjects in the CAI/Interactive Video skill practice would be instructed to generate their responses and then select the computer-supplied response most similar to their generated response. Generated responses could be written or recorded by a voice-activated machine. Performance levels from this additional experimental condition could be compared to the read-only and the generate-only conditions to further enhance
understanding of the Generation Effect. Third, prior learning strategies for subjects familiar with the material should be ascertained. The nature of the prior learning, specifically if it required response generation, should be considered. Finally, inclusion of a post-test interview simulation immediately following the training session would help detect any reduction in the Generation Effect.

CONCLUDING REMARKS

Psychologically, the nature of learning involves a combination of ability, motivation and situational constraints. Behavior Modeling training attempts to incorporate processes which maximize each of these components. The modeling and skill practice phases of training increase the participant's ability to handle interpersonal situations. The feedback provided after the skill practice increases the trainee's motivation to perform the skills. The transfer of training phase focuses on arranging the on-the-job environment to facilitate maximum transfer of learning.

The present study primarily concentrated on the ability component of learning. The variations in instruction and skill practice were studied so that the best training program could be developed. The theoretical importance placed by Graf on generating responses provides a psychological explanation for the learning processes involved in acquiring the ability to handle interpersonal situations.
This study was a first step in systematically studying the effectiveness of various modes of instruction and skill practice in Behavior Modeling training. Technological advances occur continuously. Due to the current trend toward increased utilization of computers in training, it is imperative to evaluate the effectiveness of new applications of technology. This study has demonstrated that computers can enhance Behavior Modeling training but that they cannot completely substitute for live interactions.
REFERENCES


Olson, J. Gagne on the uses of new technology. Instructional Innovator, 1983, 24-25.


If you remember when we were talking about the key principles last week, we mentioned in passing some of the poor work habits such as talking to your fellow employees, extending your lunch hours, and smoking in non-smoking areas. Last week, we had a perfect example of a conflict situation in a local plant. A man went over to speak with his wife. The supervisor told him to knock it off, but the employee went back and did it again. The supervisor suspended him, and the result was the supervisor is dead. The employer came back with a gun and shot his boss. All this happened over a very, very minor issue. I couldn't help but stop and think WHAT IF THAT PERSON HAD TRIED some of these things that we've been working with the last several weeks. Even not knowing the key principles, the supervisor could have brought the man in, sat down in front of him, and found out what the problem was. Is it possible that in your decision mode some day as a manager that it might be more important for you to take the time to settle a problem that has been bothering a person? Wouldn't that be more productive than what happened last week? What has happened to productivity then? A loss of appreciable time. The death of a man.

Have any of you read the "Naked Ape?" If you follow the anthropologist's role, man is a combative creature. So what does that mean? That means that ALWAYS there is going to be conflict in every situation. A professor from Harvard ten or twelve years ago predicted instances of communal violence in the world. Italy, Israel, South Africa, India, Quebec, Ireland -- you name it -- Central America. Somebody always manages to find a reason to have a conflict. Today, we're going to be interested in conflict in the workplace.

And if you want to get a feel for it, go back to the very beginning when you started being cognizant of what was going on around you in grade school. Can
Appendix A

you remember anyone you didn't like in class? Can you remember anyone you particularly focused on for dislike? Can you remember a teacher you didn't get along with? When you went to high school or college, if you were in the service, if you're in the workplace, was there somebody that you didn't get along with? Were there always some ashes, some embers in there that you could blow up a little bit and get a flame and have a real conflict in the workplace? There it is. You can bet there was always somebody who was after something, and maybe somebody was trying not to give it.

There are certain points that you want to remember about conflict. First, I don't have to draw big picture for you to tell that it reduces productivity. When you're in a workplace and a team effort is required, when two people don't get along, and they are so busy nagging at each other, the work never gets done. When one person is plotting against another person, or withholding information because she or he doesn't like the person who needs the information, productivity suffers. You're going to see that in the model today. It reduces productivity.

Another point we want to remember is that if you identify the source of the problem, you've already started helping. So one of the most important things you want to remember in conflict is identify the source. This means identifying where the conflict came from. For example, conflict can come from something which occurred in the past that still causes resentment. Or one person might believe the other said something and conflict results. Prejudices, perceived or real, can foster conflict.
Now the thing to remember, after you've identified what the conflict is, don't go back and deal in personalities. You deal with a specific behavior. For example, say to the person, "At the meeting when I said the budget proposal is incomplete, you let out a long groan." or "When I was talking and you were three desks away, and I said so-and-so, I heard you turn and sigh and say, 'That's the most stupid thing I ever heard of.'" Those are specific behaviors you observed. Statements such as "you're being difficult" will not lead to a productive resolution of the problem.

Lastly, the thing that is most important to remember is that discussing conflict is very difficult. The other person can become defensive or hostile, so you have to be careful. Therefore, it has to be approached in some methodical fashion. You may not solve the problem, but you'll certainly help to diffuse it a great deal if you help maintain self-esteem, if you listen and respond with empathy, and if you try to get that person to help you solve his problem.

Now, I'd like you to take the workbook, and I'd like you to read just the first page, down through the Critical Steps.

To review the Critical Steps ...

First of all, when some conflict arises, you must go one on one with the other person. Explain specifically what you have observed. Tell him or her exactly what you saw or what you heard. Cite specific behaviors and objectively describe what the employee has done to make you believe there is a conflict. Tell the person why you are concerned about what you have observed. The
Appendix A

behavior could be affecting the morale of the workforce or diminishing communication between groups. So, tell the person what you have observed in behavioral terms and why it concerns you. Avoid accusations.

Second, ask for reasons and listen attentively. Now here you're giving the person a reasonable chance to tell what his or her problem is. You need to know all of the facts to effectively handle the situation. Listen carefully to the employee. Also, be prepared because he or she might accuse you of causing the conflict. Don't become defensive -- just listen for understanding and respond with empathy.

The third, and most important, critical step is to discuss the sources of conflict including yourself. Ask the employee directly and specifically what is causing the conflict. Be prepared to suggest that you may be doing something to cause the conflict. If the employee denies the existence of any conflict, end the discussion by asking him or her not to repeat the inappropriate behaviors. Always leave the door open by indicating that you are willing to talk about any problems at any time.

If the discussion continues and the employee opens up his or her feelings about the conflict, let him/her know that you understand those feelings. Even if the conflict centers around you -- your sex, race, age, management style, etc. -- don't become defensive. Invite open, honest communication by responding with empathy.
Appendix A

Once all of the employee's feelings have been discussed, the two of you need to discuss possible solutions. While the conflict may not be completely eliminated, it should be reduced. Ask the employee's help in discovering mutually acceptable solutions. Agree on specific actions that must be undertaken to implement the solutions you have discussed. Both of you must understand and agree to carry out the actions.

Finally, end the discussion on a positive note by indicating your confidence that the situation will improve. Please be careful not to overstate what has been accomplished. Further discussions may be necessary before the problem is completely resolved.

Now, we will watch the modeling tape. It involves Lynn Talbert and one of her subordinates — Ray. Lynn will use the critical steps to resolve the conflict she believes exists between herself and Ray.

(Watch Modeling Tape)

You just saw a supervisor take productive steps to resolve conflict in the workplace. You will now have an opportunity to try out these skills yourself.
APPENDIX 3: TRANSCRIPT OF AUTOMATED INSTRUCTION
YOU ARE BEGINNING THE REWARDING AND INTERESTING EXPERIENCE OF INTERACTIVE LEARNING. IN THIS MODULE YOU WILL ACTUALLY LEARN BY DOING. TO BEGIN THE EXPERIENCE YOU SHOULD CHECK NOW TO BE SURE THAT THE PROPER VIDEO TAPE HAS BEEN INSERTED IN THE VIDEO TAPE MACHINE AND THAT THE MACHINE IS TURNED ON. THE TAPE FOR THIS MODULE IS "RESOLVING CONFLICT." ONCE YOU ARE SURE THAT THE TAPE HAS BEEN PROPERLY INSERTED AND THE MACHINE IS ON, PUSH ANY KEY TO BEGIN THIS MODULE.

PLEASE DOUBLE CHECK TO MAKE SURE:

1. TAPE MACHINE ON?

2. CORRECT TAPE IN? (RESOLVING CONFLICT)

PRESS ANY KEY WHEN READY TO CONTINUE.

Opening Scene: Several scenes showing people cooperating in problem solving, physical labor (this scene would show an individual trying to lift something heavy and two others helping, group meetings, and the last scene will be a male supervisor approaching an employee in a normal work setting. Employee is sitting at the desk.

Throughout the opening scene there will be music, lively but not overpowering. In the last scene, supervisor asks
SUPERVISOR: I CAN SEE YOU'RE PRETTY BUSY, BUT WE'VE GOTTEN A LITTLE EMERGENCY -- COULD YOU COME INTO MY OFFICE AND HELP US OUT?

EMPLOYEE: SURE . . . (gestures at work) THIS REPORT HAS TO BE FINISHED TODAY . . . BUT I'LL BE GLAD TO HELP IF I CAN.

SUPERVISOR: THANKS . . . I DON'T THINK IT'LL TAKE VERY LONG -- HALF AN HOUR OR 45 MINUTES?

EMPLOYEE: (smiles & rises) NO PROBLEM!

SUPERVISOR: I APPRECIATE YOUR HELP ON THIS JOE AND I AM TRYING TO FINA LIZE THE NEW SCHEDULE. (employee nods)

AND WE'D LIKE YOU TO REVIEW IT WITH US. YOU HAVE A GOOD HANDLE ON HOW IT'LL AFFECT EVERYBODY IN THE DEPARTMENT . . .

EMPLOYEE: RIGHT.

SUPERVISOR: SO WE FEEL YOU'LL BE ABLE TO SPOT ANY POTENTIAL PROBLEM.

NARRATOR: (voice-over) COOPERATION AND TEAMWORK, OPEN COMMUNICATION, THE WILLINGNESS TO PITCH IN WHEN HELP IS NEEDED. THESE ARE THE QUALITIES OF A PRODUCTIVE AND HEALTHY WORK FORCE.

Next Scene: Narrator on camera, office set mid-level manager dressed in three-piece suit standing beside desk.
NARRATOR: The subject you have chosen, resolving conflict, is very important for your success as a supervisor. After all, your role as a supervisor is to get organization goals and objectives accomplished through the work of others. This can't be done without the cooperation and teamwork of those who report to you. That cooperation and teamwork depends on how well you are accepted as a supervisor. Usually, this acceptance and cooperation is not a problem. After all, one of the reasons you were promoted was your ability to get along well with others. As a matter of fact, when things are going smoothly, we take for granted that people will cooperate and get along. The issue of acceptance and cooperation becomes important when things go wrong, when there is conflict.

Heading: Scene 3 - Same supervisor approaching another employee, basically same office setting

SUPERVISOR: Say, could I get your help on a little problem we've got here?

EMPLOYEE: (nearly shouting) Look, I'm busy. Get somebody else.

SUPERVISOR: Is something wrong?
EMPLOYEE: NO, NOTHING'S WRONG. YOU'RE ALWAYS TRYING TO MAKE SOMETHING OUT OF NOTHING. IF YOU'RE ORDERING ME TO COME AND HELP YOU -- THEN FINE. IF NOT, GET SOMEONE ELSE.

SUPERVISOR: (standing, showing an expression of confusion)

Scene 4 - Narrator's office

NARRATOR: THERE WAS NO SIGN OF COOPERATION IN THAT SCENE. IN THIS CASE THE SUPERVISOR, BOB, SUSPECTS THAT THE EMPLOYEE RESENTS HIS RECENT PROMOTION AND THAT THIS HAS BECOME A SOURCE OF CONFLICT. NO MATTER WHAT THE REASON FOR THE CONFLICT, BOB MUST TAKE ACTION TO CORRECT THE PROBLEM BEHAVIOR. UNTIL HE DOES, THE TENSION BETWEEN HIM AND THIS EMPLOYEE WILL KEEP THEM FROM REACHING THEIR MAXIMUM WORK PRODUCTIVITY. IN ADDITION, THE STRESS CAUSED BY THIS TENSION IS NOT HEALTHY. THE STRESS COULD RESULT IN PSYCHOLOGICAL AND/OR EMOTIONAL ILLNESS.

LET'S EXAMINE SOME IMPORTANT POINTS ABOUT THE SKILL OF RESOLVING CONFLICT.

Video: (on Camera using Important Points Chart)
CONFLICT REDUCES PRODUCTIVITY . . . THIS MODULE IS CONCERNED WITH THE SUBJECTS OF DESTRUCTIVE CONFLICT -- CONFLICT THAT IS DAMAGING TO YOUR ABILITY TO WORK PRODUCTIVITY WITH ANOTHER PERSON.

IN EVERY RELATIONSHIP THERE WILL BE TIMES OF DISAGREEMENT -- EVEN HEATED DISAGREEMENT . . . AND THIS CAN BE HEALTHY WHEN THE DISAGREEMENT INVOLVES TWO PEOPLE WORKING OUT DIFFERENCES IN OPINION.

HOWEVER, IN THIS MODULE, WE'LL DEAL WITH RESOLVING Destructive Conflicts that sometimes OCCUR -- WHEN TWO PEOPLE BECOME STRESSED OR TENSE IN NEARLY EVERY INTERACTION -- THIS TYPE OF CONFLICT REDUCES NOT ONLY THEIR OWN PRODUCTIVITY, BUT ALSO THE PRODUCTIVITY OF PEOPLE AROUND THEM. YOU NEED TO RESOLVE ANY CONFLICT THAT'S PREVENTING YOU OR OTHER MEMBERS OF THE ORGANIZATION FROM WORKING PRODUCTIVELY.

IDENTIFY THE SOURCE OF THE CONFLICT . . . THE OLD COMMENT, "WE JUST DON'T GET ALONG -- OUR PERSONALITIES CLASH," IS OFTEN JUST AN EXCUSE FOR WHAT THE PERSON REALLY MEANS . . . "I WON'T DO ANYTHING TO TRY TO GET ALONG."

PERSONALITIES DON'T CLASH -- BEHAVIORS DO. IT'S WHAT A PERSON SAYS OR DOES
THAT CAUSES SOMEONE TO LIKE OR NOT LIKE THEM, TO LIKE WORKING AND BEING AROUND THEM OR TO RESENT THEM . . .

THE REASONS FOR CONFLICT BETWEEN 2 PEOPLE CAN USUALLY BE PLACED IN ONE OF THREE CATEGORIES:

1) SOMETHING THAT OCCURRED IN THE PAST IS CAUSING RESENTMENT,

2) ONE OF THOSE IN CONFLICT BELIEVES THE OTHER SAID OR DID SOMETHING IN THE PAST, OR

3) ONE OR BOTH OF THOSE IN CONFLICT IS FEELING RESENTMENT BECAUSE OF BIAS OR PREJUDICE . . . FOR EXAMPLE, A PERSON MAY RESENT WORKING WITH OR FOR SOMEONE OF A DIFFERENT SEX, RACE, RELIGIOUS BELIEVE, OR NATIONALITY.

NATURALLY, YOU'LL DEAL WITH THE CONFLICT DIFFERENTLY BASED ON THE CAUSE, SO THE FIRST STEP IN DEALING WITH THE CONFLICT IS TO UNDERSTAND THE REASON FOR IT.

DEAL WITH THE BEHAVIOR . . . NO MATTER WHAT THE REASON FOR THE CONFLICT, IT CAN ONLY BE RESOLVED BY FOCUSING ON BEHAVIORS . . . WHAT HAS THE PERSON SAID OR DONE THAT LEADS YOU TO BELIEVE THERE IS RESENTMENT OR CONFLICT?
CONFLICTS ARE MORE QUICKLY RESOLVED WHEN BOTH PEOPLE INVOLVED DISCUSS WHAT HAS HAPPENED RATHER THAN ACCUSING EACH OTHER OF DEVIOUS MOTIVES OR FEELINGS. TO SAY TO SOMEONE, "I THINK YOU HATE ME," OR "YOU'RE JUST OUT TO MAKE ME LOOK BAD" IS SURE TO GET AN ARGUMENT. IF INSTEAD, YOU DESCRIBE WHAT YOU HAVE OBSERVED AND ASK FOR A REASON, CHANCES ARE A LOT BETTER THAT THE OTHER PERSON WILL BE LESS DEFENSIVE AND LET YOU GET TO THE ROOT OF THE PROBLEM.

SOMETIMES THE SOURCE OF RESENTMENT IS TOO DEEPLY SEATED TO BE ABLE TO CHANGE THE PERSON'S FEELINGS SUCH AS IN THE CASE OF PREJUDICE OR BIAS. IN THESE SITUATIONS, THE ONLY WAY THE CONFLICT CAN BE RESOLVED IS TO REACH AGREEMENT ON WAYS TO ELIMINATE THE BEHAVIORS THAT ARE CAUSING THE CONFLICT. THE GOAL OF CONFLICT RESOLUTION IS NOT NECESSARILY TO BECOME FRIENDS . . . MORE REALISTICALLY, THE GOAL IS TO WORK TOGETHER PRODUCTIVELY.

CONFRONTING CONFLICT IS RISKY . . . IT'S NOT EASY TO TAKE THE FIRST STEP TO RESOLVE A CONFLICT. WHEN YOU TALK TO A PERSON ABOUT RESENTMENT OR A CONFLICT, YOU RUN THE RISK THAT THE OTHER PERSON WILL DENY IT OR BECOME MORE HOSTILE OR EVEN EMOTIONAL, SO YOU HAVE TO BE PREPARED TO DEAL WITH THIS.
IF THE PERSON DENIES THAT THERE'S A PROBLEM, YOU FACE FRUSTRATION -- PERHAPS EMBARRASEMENT. IF THE PERSON BECOMES HOSTILE OR EMOTIONAL, YOU'RE RUNNING THE RISK THAT THE SITUATION WILL GET TOO DIFFICULT FOR YOU TO HANDLE EFFECTIVELY.

EVEN WITH THE RISKS INVOLVED YOU HAVE LITTLE CHOICE. YOU CAN LET THE CONFLICT GO ON UNTIL IT BECOMES SO DESTRUCTIVE YOU HAVE TO DO SOMETHING OR YOU CAN CONFRONT IT EARLY -- DIFFICULT AS IT MIGHT BE.

THIS MODULE WILL HELP YOU HANDLE THIS TYPE OF SITUATION EFFECTIVELY. YOU'LL LEARN HOW TO MINIMIZE YOUR RISKS BY USING SIX CRITICAL STEPS WHEN YOU CONDUCT A RESOLVING CONFLICT DISCUSSION.

Video: Narrator on camera referring to Critical Steps chart.

NARRATOR: (on camera using Critical Steps chart) LET'S TAKE A LOOK AT THE CRITICAL STEPS FOR RESOLVING CONFLICT. THE FIRST STEP IS "EXPLAIN WHAT YOU HAVE OBSERVED AND WHY IT CONCERNS YOU." IT IS VERY IMPORTANT THAT YOU BE ABLE TO APPROACH THIS SUBJECT WITHOUT THREATENING THE SELF-ESTEEM OF THE OTHER PERSON. AVOID ACCUSING THE PERSON OF HAVING THE WRONG ATTITUDE OR BEING UNCOOPERATIVE. YOUR DISCUSSION WILL BE MORE PRODUCTIVE IF
YOU DESCRIBE VERY SPECIFICALLY WHAT YOU HAVE OBSERVED AND WHY IT CONCERNS YOU. PEOPLE ARE MORE WILLING TO DISCUSS A PROBLEM OPENLY WHEN THEY ARE APPROACHED WITH A SPECIFIC DESCRIPTION OF THE PROBLEM BEHAVIOR. TO UNDERSTAND THIS, LET'S LOOK AT TWO EXAMPLES. WE WILL BE WATCHING OUR SUPERVISOR, BOB, DISCUSSING THE BEHAVIOR HE OBSERVED WHEN HE ASKED FOR THE EMPLOYEE'S HELP. YOU DECIDE WHICH APPROACH BY BOB IS THE MOST EFFECTIVE USE OF THIS CRITICAL STEP.

Scene switches - limbo set, supervisor and employee sitting at a desk

VIDEO/VIGNETTE

SUPERVISOR: BEN, I DON'T UNDERSTAND WHY YOU WERE BEING SO BELLIGERENT AND UNCOOPERATIVE THIS MORNING WHEN I ASKED FOR YOUR HELP. I NEED EMPLOYEES HERE WHO ARE WILLING TO PITCH IN AND HELP WHEN THERE ARE PROBLEMS, AND YOU CERTAINLY AREN'T SHOWING A COOPERATIVE ATTITUDE.

Next scene - same as above

SUPERVISOR: BEN, THIS MORNING WHEN I ASKED YOU TO HELP OUT YOU SHOUTED AT ME. YOU TOLD ME I SHOULD GET SOMEONE ELSE. WHEN I ASKED YOU WHAT WAS WRONG, YOU ACCUSED ME OF TRYING TO MAKE SOMETHING OUT OF NOTHING AND TOLD ME THAT I HAD TO ORDER YOU TO DO IT. I DON'T LIKE TO GIVE ANYONE ORDERS, BEN, AND I REALLY NEED MORE
Cooperation from you than I've been getting. Is there something bothering you that we should talk about?

If you feel the first example was best, press "1."
If you feel the second example was best, press "2."
Enter your choice.

Next scene - Narrator's office

Narrator: The second example was the correct one. In this example, Bob specifically described what had occurred and he explained that this concerned him because he needed more cooperation than he was getting. With this approach, this supervisor did not threaten or accuse Ben. As objectively as possible he described what occurred. This should get the discussion off on the right foot and minimize defensiveness.

The second critical step is "ask for reasons and listen attentively."

Video: As a supervisor reads the second critical step, video switches to the chart - Ask for reasons and listen attentively.

Narrator: Let the employee talk. You need to understand what is causing the inappropriate behavior. Do not accuse or suggest at this time that the employee is feeling resentful or being
UNCOOPERATIVE. INSTEAD, ASK FOR REASONS FOR THE BEHAVIOR. LISTEN OPENLY. BE PREPARED THAT THE EMPLOYEE MAY ACCUSE YOU OF CAUSING THE CONFLICT. AT THIS POINT IN THE DISCUSSION, IT IS IMPORTANT THAT YOU SIMPLY LISTEN FOR UNDERSTANDING AND RESPOND WITH EMPATHY.

Critical Step #3 - At this point video switches to chart.

NARRATOR: DISCUSS SOURCES OF THE CONFLICT, INCLUDING YOURSELF.

Video back to narrator.

NARRATOR: THIS IS THE MOST DIFFICULT PART OF THE DISCUSSION, BUT IT IS AN IMPORTANT STEP. YOU NEED TO BE PREPARED TO DISCUSS OPENLY THE REASONS FOR THE CONFLICT. SPECIFICALLY, YOU SHOULD POINT OUT YOUR FEELINGS THAT THERE SEEMS TO BE RESENTMENT AND ASK WHY THE EMPLOYEE IS FEELING THIS WAY. YOU NEED TO BE PREPARED TO SUGGEST THAT YOU MAY BE DOING SOMETHING THAT IS CAUSING THIS CONFLICT. IF THE EMPLOYEE DENIES THE RESENTMENT, THEN END THE DISCUSSION AT THIS POINT BY ASKING THAT THE BEHAVIORS THAT YOU HAVE OBSERVED BE AVOIDED IN THE FUTURE. IT MAY INDEED BE THAT THE EMPLOYEE IS TELLING THE TRUTH AND THERE IS NO RESENTMENT. LET'S LOOK AT TWO EXAMPLES OF A SUPERVISOR ATTEMPTING TO
FOLLOW THIS STEP. AGAIN, INDICATE BY PRESSING EITHER KEY #1 OR KEY #2 WHICH OF THE EXAMPLES YOU THINK IS THE BEST USE OF THIS CRITICAL STEP. WE WILL, AGAIN, SEE BOB DISCUSSING THE RESENTMENT HE FEELS BEN HAS BEEN DISPLAYING.

Video: Scene switches again to limbo set, same as earlier examples

SUPERVISOR: BEN, UNTIL I RECEIVED MY PROMOTION, YOU WERE ONE OF THE MOST COOPERATIVE AND HELPFUL ENGINEERS THAT I'VE EVER MET. IT SEEMS THAT THE BEHAVIORS WE'VE BEEN DISCUSSING ONLY BEGAN AFTER I RECEIVED MY PROMOTION AND BECAME YOUR SUPERVISOR. I HAVE THE FEELING THAT YOU ARE ACTING THE WAY YOU ARE BECAUSE YOU RESENT MY GETTING THE PROMOTION. AM I RIGHT ABOUT THAT?

Next scene - Same supervisor, same employee, same limbo set

SUPERVISOR: BEN, I MAY BE TOTALLY WRONG, BUT IS THERE SOMETHING ABOUT ME THAT'S CAUSING A PROBLEM?

Video: Narrator sitting

NARRATOR: THE FIRST EXAMPLE WAS THE BEST. IN THAT EXAMPLE, BOB STARTED OUT BY SAYING THAT BEFORE BOB HAD RECEIVED THE PROMOTION BEN HAD BEEN A VERY HELPFUL AND
COOPERATIVE ENGINEER. He then very specifically asked if Ben resented Bob getting the promotion. When the other person is not willing to discuss reasons for the conflict, it is important that you very openly describe what you think may be the source of resentment and ask for the employee's explanation if the source that you describe is not accurate. If the employee is willing to talk about reasons, you can simply ask for an explanation about what is causing the conflict.

The next Critical Step - Video switches to Critical Step chart - indicate that you understand the employee's feelings

Video switches back to the narrator

NARRATOR: Once you have discussed sources of resentment conflict, it is important that you let the employee know that you understand his or her feelings. You will need to be careful to avoid becoming defensive, especially if the source of resentment or conflict is you. By indicating to the employee that you understand how he feels, you are inviting open and honest communication. It is very important that you be prepared to respond with empathy. Let's look at two examples of this critical step. Again, decide which you feel is more effective.
Video: Same scene as above, limbo set - Bob and Ben, camera focusing on Ben

BEN: OK, IF YOU INSIST. SURE I RESENT YOU BEING MY SUPERVISOR. YOU'VE BEEN HERE WHAT -- SEVEN YEARS LESS THAN ME. EVERYONE HAS TOLD ME ALL ALONG HOW GOOD A JOB I DO, JUST AS YOU SAID. SURE I'VE COOPERATIVE -- I'VE BEEN THE NICE GUY AROUND HERE. WHAT'S IT GOTTEN ME? IT'S GOTTEN ME NOTHING THAT'S WHAT.

BOB: BEN, I CAN UNDERSTAND YOU BEING ANGRY ABOUT NOT GETTING THE PROMOTION. I KNOW THAT YOU'VE WORKED VERY HARD HERE AND I'M SURE YOU FEEL YOU DESERVED THAT PROMOTION.

Scene switches to same limbo set, this time focused on Bob -- Bob's second reaction

BOB: BEN, SURE YOU'RE MAD AT ME, BUT I REALLY DON'T UNDERSTAND WHY. I'M NOT THE ONE WHO MADE THE DECISION AND I TRULY DON'T FEEL BAD THAT I GOT THE PROMOTION. I DON'T THINK IT'S FAIR FOR YOU TO BE TAKING THIS OUT ON ME.

Video switches back to narrator

NARRATOR: THE FIRST EXAMPLE WAS THE BEST USE OF THIS CRITICAL STEP. BOB DID NOT BECOME DEFENSIVE BUT RESPONDED WITH EMPATHY WHEN HE SAID "I CAN UNDERSTAND YOU BEING
ANGRY" AND "I'M SURE YOU FELT THAT YOU DESERVED THIS PROMOTION." THIS STATEMENT HELPED CALM DOWN THE DISCUSSION. I'M NOT TRYING TO SAY THAT WITH THIS RESPONSE BOB AND BEN ARE GOING TO START GETTING ALONG. AS A MATTER OF FACT, THEIR DISCUSSION HAS JUST STARTED AND IT'S POSSIBLE THAT BEN WILL EVEN BECOME MORE OPEN WITH HIS FEELING AS THE DISCUSSION PROCEEDS. BUT BY RESPONDING IN THE WAY THAT HE DID, BOB ENCOURAGED THIS OPEN COMMUNICATION AND THROUGH THIS TYPE OF COMMUNICATION IT IS LIKELY THAT BOB AND BEN WILL BEGIN TO RESOLVE THE CONFLICT.

THE NEXT CRITICAL STEP IS DISCUSS POSSIBLE SOLUTIONS AND AGREE ON SPECIFIC ACTION.

NARRATOR: ONCE THE EMPLOYEE HAS OPENLY EXPRESSED FEELINGS, IT IS IMPORTANT TO SWITCH THE DISCUSSION TO SOLUTIONS THAT WILL CORRECT THE PROBLEMS. WITH BOB AND BEN IT MAY BE SOLUTIONS ABOUT HOW BEN CAN INCREASE HIS OPPORTUNITIES FOR PROMOTION IN THE FUTURE. BOB WILL ALSO BEGIN WORKING WITH BEN IN A WAY THAT ALLOWS BEN TO FEEL HE IS AN IMPORTANT PART OF THE ORGANIZATION. ONCE ACTIONS ARE
AGREED UPON, IT IS IMPORTANT THAT THEY BE CLEARLY UNDERSTOOD BY BOTH SO THAT THESE ACTIONS ARE TRULY CARRIED OUT.

SIX - INDICATE YOUR CONFIDENCE THAT THE SITUATION WILL IMPROVE.

Again, the scene switches to Critical Steps chart, then back to narrator

NARRATOR: THIS WILL HAVE PROBABLY BEEN A VERY DIFFICULT DISCUSSION FOR BOTH OF YOU. IT IS IMPORTANT THAT YOU END THIS DISCUSSION ON A HIGH NOTE BY SINCERELY EXPRESSING YOUR EXPECTATION THAT THINGS WILL IMPROVE. IF THIS IS A FIRST DISCUSSION, YOU MAY HAVE JUST STARTED THE PROCESS OF IMPROVING YOUR RELATIONSHIP WITH THIS PERSON. THEREFORE, IT IS IMPORTANT THAT YOU NOT OVERSTATE WHAT HAS BEEN ACCOMPLISHED TO THIS POINT. LET'S LOOK AT TWO EXAMPLES OF THAT AND, AGAIN, DECIDE WHICH YOU FEEL IS MOST EFFECTIVE.

Scene switches again to Bob and Ben

BOB: WELL, BEN, I'M SURE GLAD THAT WE GOT THIS STUFF OUT ON THE TABLE HERE AND I HOPE THAT NOW IN THE FUTURE YOU'RE GOING TO BE THE COOPERATIVE, HELPFUL ENGINEER THAT I KNEW IN THE PAST.
Scene switches again - focus on Bob - second example

**BOB:** BEN, I KNOW THIS HAS BEEN A DIFFICULT DISCUSSION FOR BOTH OF US. I KNOW YOU'RE STILL NOT HAPPY ABOUT NOT GETTING THE PROMOTION. I SURE CAN UNDERSTAND THAT, BUT I CAN TELL YOU NOW I FEEL A LOT BETTER THAT WE'VE DISCUSSED IT. YOU KNOW BY CONTINUING WHAT WE'VE STARTED TODAY, I THINK THINGS WILL BE BETTER BETWEEN US.

Video switches to narrator

**VIDEO/NARRATOR**

**NARRATOR:** THE SECOND EXAMPLE WAS BEST. IN THIS EXAMPLE, BOB OPENLY EXPRESSED HOW HE FELT ABOUT THE DISCUSSION, RECOGNIZING THAT IT WAS A DIFFICULT DISCUSSION FOR BOTH OF THEM. HE ALSO EXPRESSED HIS OPINION THAT THINGS WOULD GET BETTER BY CONTINUING WHAT THEY HAD STARTED. THIS TYPE OF RESPONSE DOES NOT OVERSTATE WHAT WAS ACCOMPLISHED BUT ENDS THE DISCUSSION ON A HIGH NOTE.

Narrator points to the steps

**NARRATOR:** THESE STEPS CAN BE YOUR GUIDE TO SUCCESSFUL DISCUSSIONS WITH ANYONE WHO YOU FEEL RESENTS YOU OR WHO IS IN CONFLICT WITH YOU. BEFORE WE MOVE ON WITH A MODEL SHOWING AN EFFECTIVE USE OF THESE STEPS, WE WANT TO GIVE YOU AN OPPORTUNITY TO REVIEW ANY PART OF THIS EXPLANATION ABOUT THE CRITICAL STEPS.
You may review any step by pressing 1-6 or press "A" to review all six. Press either button for no review.

Please note, before you continue, please attach template number two to your interaction pad, and read the corresponding instructions. Press interaction pad button to continue.

**First Heading:**

1. Explain what you have observed and why it concerns you.

**TEXT EXPLANATIONS**

**OF INCORRECT RESPONSES TO CRITICAL STEPS - GOOD/BAU EXAMPLES EXERCISE.**

**TEXT EXPLANATION:**

This example was not the best because the supervisor described more of what he thought were the employee's feelings rather than specifically what behaviors he had observed. When Bob said that the employee was being uncooperative and belligerent, he was labeling the behavior as it affected him and did not describe specifically what the employee said. This type of response normally gets more defensiveness than a description of the behavior.

**TEXT EXPLANATION:**

This example was not the best because Bob was vague about what he felt was the source of resentment. He also started out by giving the employee an out when
He said 'I may be wrong, but...? He was also vague about "things I might be doing that's causing you to resent me."

Next text - Heading: Indicate that you understand the employee's feelings.

This example was not good even though Bob basically recognized that Ben was feeling angry. When he said, "I don't understand why," he this discounted the employee's feelings and will probably close off communications rather than allowing the employee to express his feelings openly. By saying, "I don't think it fair to take it out on me," Bob actually became defensive.

Next text - Indicate your confidence that the situation will improve

This choice was not the best because Bob did not come across as sincere. When he said "I hope you'll start being the cooperative and helpful engineer that I knew in the past" he was, in a sense, telling what he expected of Ben rather than indicating his confidence based on what had been accomplished. This type of response may have come across as fatherly rather than treating Ben as an adult.
NARRATOR: LYNN WILL BE FOLLOWING THE CRITICAL STEPS FOR RESOLVING CONFLICT. THROUGHOUT THE DISCUSSION SHE WILL ALSO EFFECTIVELY USE THE KEY PRINCIPLES.

(Narrator Moves to Key Principles Chart and reads from chart)

1) MAINTAIN AND ENHANCE SELF-ESTEEM.
2) LISTEN AND RESPOND WITH EMPATHY.
3) ASK FOR HELP IN SOLVING THE PROBLEM.

NARRATOR: AS YOU WATCH THE DISCUSSION TRY TO IDENTIFY WHEN LYNN IS USING THE CRITICAL STEPS AND KEY PRINCIPLES.

COMPUTER TEXT PLEASE GET YOUR CARD OUT NOW. (YOU MAY PRESS "HELP" FOR HELP.)

PRESS LEFT BUTTON TO CONTINUE.

COMPUTER TEXT HELP = PRESS THE INTERACTION PAD TO SIGNAL LYNN'S USE OF THE SIX CRITICAL STEPS AND THREE KEY PRINCIPLES IN HER DISCUSSION WITH RAY.

OTHER OPTIONS

PAUSE/UNPAUSE -- CONTROLS VIDEO
HELP -- PRESS TO SEE "HELP" AGAIN
QUIT -- QUIT PROGRAM
PRESS LEFT BUTTON TO RETURN TO VIDEO

(MODELING TAPE IS SHOWN)
MODELING TAPE IS PLAYED (20 Minutes)
NARRATOR: YOUR ACCURACY OF IDENTIFYING THE CRITICAL STEPS AND KEY PRINCIPLES IS DISPLAYED ON THE TWO CHARTS ABOVE. THE CHART TITLED KEY PRINCIPLES CONTAINS BOXES WHICH DEMONSTRATE THE KEY PRINCIPLES THAT WERE ACTUALLY USED AND WHEN IN THE DISCUSSION LYNN USED THE KEY PRINCIPLE. AS YOU LOOK AT THE CHART, THERE ARE FOUR BOXES. TWO USES OF KEY PRINCIPLE THREE AND ONE EACH OF KEY PRINCIPLE ONE AND TWO. YOUR RESPONSES ARE REPRESENTED BY DOTS. A DOT APPEARING ON THE CHART SHOWS THAT YOU PRESSED ONE OF THE KEYS. ANY DOT THAT APPEARS INSIDE A BOX REPRESENTS A CORRECT ANSWER.

THE CHART TITLED CRITICAL STEPS CONTAINS BOXES THAT DEMONSTRATE WHEN A CRITICAL STEP STARTED AND WHEN IT ENDED. SIX CRITICAL STEPS, SIX BOXES. THE DOTS IN THIS CHART DEMONSTRATE WHEN YOU PRESSED TO INDICATE THAT YOU FELT A CRITICAL STEP WAS BEGINNING. IF A DOT IS IN A BOX, IT REPRESENTS A CORRECT ANSWER. THE CLOSER THE DOT IS TO THE LEFT SIDE OF THE BOX, THE EARLIER YOU RECOGNIZED THE CRITICAL STEP BEHAVIORS. PERFECT ACCURACY FOR THE CRITICAL STEPS CHART WOULD HAVE A DOT IN THE LEFT SIDE OF EACH OF THE SIX BOXES.

LOOK OVER YOUR CHARTS, IF A BOX IS WITHOUT
A dot, or if the dot is to the right side of any critical step box, you may want to check your answer with an explanation.

Press "HELP" for instructions.

1. Select critical step on graph using pad.

2. Confirm step selected by pressing button on left.

3. Press button on right when ready to move on to conclusion.

Press "HELP" again to return to graph.
Video script for Critical Step reviews.

1A - Critical Step One -- Explain what you have observed and why it concerns you.

Video switches to the same scene with the following dialogue.

LYNN: I HAVE A FEELING THAT WE'RE NOT ANTICIPATING PROBLEMS AS QUICKLY AS WE SHOULD. AS A MATTER OF FACT, I FELT AT MONDAY'S STAFF MEETING THAT YOU WEREN'T TOO TALKATIVE. YOU DIDN'T PARTICIPATE TOO MUCH, AND I WAS WONDERING IF SOMETHING IS BOTHERING YOU.

RAY: I THOUGHT I WAS MY USUAL SELF. DO I GET RATED ON HOW MUCH I TALK IN STAFF MEETINGS NOW?

LYNN: I DIDN'T MEAN THAT. I JUST NOTICED THAT YOU WERE QUITER THAN USUAL. IS SOMETHING BOTHERING YOU?

Disolve -- Next Scene

NARRATOR: (on screen) THE CRITICAL STEPS STARTED HERE WITH LYNN DESCRIBING RAY'S LACK OF PARTICIPATION IN MEETINGS. LYNN DESCRIBED THE BEHAVIOR OBJECTIVELY BY USING THE PHRASE, "I HAVE THE FEELING," AND SHE ALSO ATTEMPTED TO KEEP RAY FROM BEING DEFENSIVE
BY ASKING, "WAS SOMETHING WRONG?" LYNN EXPLAINED WHY THE BEHAVIORS CONCERNED HER WHEN SHE SAID . . . (video switches back to Lynn with the following quote)

LYNN: I DON'T WANT THE BASSETT PROJECT, RAY. YOU'RE THE BEST ONE TO HANDLE IT. I FEEL THAT WE HAVE GOT TO HAVE MORE EFFECTIVE COMMUNICATION ABOUT THE PROJECTS. IN OTHER WORDS, I NEED MORE INFORMATION SO I CAN BE OF MORE HELP TO YOU WHEN YOU NEED HELP. AND IT'S NOT THE BASSETT PROJECT IN PARTICULAR. I'M CONCERNED ABOUT OUR INABILITY TO COMMUNICATE ABOUT PROJECT PROBLEMS. I THINK THIS IS WHAT CAUSES THESE PROBLEMS, LIKE NOT MEETING THE DEADLINES ON THE BASSETT PROJECT AND THE COST OVERRUN ON THE LYNN PROJECT.

NARRATOR: IN THIS STATEMENT, LYNN ALSO USED KEY PRINCIPLE ONE -- MAINTAINING RAY'S SELF-ESTEEM -- WHEN SHE SAID, "I DON'T WANT THE BASSETT PROJECT, YOU'RE THE BEST ONE TO HANDLE IT."

2A -- Critical Step Two -- Ask for reasons and listen attentively.

(Video switches to Lynn)

LYNN: TELL ME, IS THERE ANY REASON WHY WE CANNOT DISCUSS THESE PROBLEMS AS THEY OCCUR?
RAY: MAYBE I JUST THINK YOU CAN'T BE OF MUCH HELP.

LYNN: WELL, I DON'T KNOW IF I CAN HELP IN ALL SITUATIONS, BUT I THINK I CAN BE OF SOME HELP WHEN I KNOW THAT THERE IS A PROBLEM THAT DOES EXIST.

(Scene switches back to Narrator)

NARRATOR: AS YOU HEARD, LYNN OPENLY ASKED FOR A REASON WHY RAY HAS NOT BEEN ABLE TO DISCUSS PROBLEMS. SHE ALSO RESPONDED TO HIS STATEMENT THAT HE DOESN'T THINK SHE CAN BE MUCH HELP WITHOUT BECOMING DEFENSIVE.

3A -- Critical Step Three -- Discuss sources of conflict, including yourself.

(Scene switches to Lynn and Ray)

LYNN: SOMETIMES I HAVE A FEELING THAT YOU RESENT ME.

RAY: I DON'T KNOW WHAT YOU'RE TALKING ABOUT.

LYNN: LIKE IN OUR DISCUSSION RIGHT NOW, I SENSED A CERTAIN AMOUNT OF RESENTMENT IN THE WAY YOU EXPRESSED YOURSELF. COULD IT BE THAT YOU DON'T LIKE THE IDEA OF WORKING FOR ME BECAUSE I AM A WOMAN?
NARRATOR: THIS EXAMPLE SHOWS THAT LYNN OPENLY EXPRESSED WHAT SHE FELT MIGHT BE THE CAUSE OF THE CONFLICT, EVEN THOUGH SHE SUSPECTED THAT IT WAS BECAUSE SHE WAS A WOMAN. THIS OPENNESS LET RAY KNOW THAT LYNN SERIOUSLY WANTED TO UNDERSTAND THE SOURCE OF THE RESENTMENT.

4A -- Next scene -- Critical Step Four -- Indicate that you understand the employee's feeling.

LYNN: YOU KNOW, I REALLY KNOW HOW YOU FEEL BECAUSE I HAD A SIMILAR SITUATION ONCE. I HAD A SUPERVISOR THAT I WAS VERY UNCOMFORTABLE WITH. I COULDN'T DISCUSS MY RELATED PROBLEMS ON THE PROJECT WITH HIM, AND THIS ONLY LED TO MORE PROBLEMS. I KNEW I SHOULD BE SHARING THIS INFORMATION, BUT I COULDN'T BECAUSE I WAS SO UNCOMFORTABLE WITH HIM. IS THIS SOMETHING LIKE THE WAY YOU FEEL?

RAY: I GUESS SO.

NARRATOR: THIS STATEMENT LET RAY KNOW HOW CLEARLY LYNN UNDERSTOOD HIS FEELINGS. SHE ALSO DID THIS VERY EFFECTIVELY WHEN SHE USED KEY PRINCIPLE TWO -- LISTEN AND RESPOND WITH EMPATHY -- EARLIER IN THE DISCUSSION.
LYNN: I CAN SEE HOW YOU MIGHT FEEL UNCOMFORTABLE. I MEAN, I THINK MOST MEN WORKING FOR A WOMAN SUPERVISOR FOR THE FIRST TIME WOULD PROBABLY FEEL THE SAME WAY. IT'S A NEW SITUATION FOR MANY OF US.

(Scene switches to Narrator)

NARRATOR: THE USE OF EMPATHY IN RELATING HER UNDERSTANDING OF RAY'S FEELING TO HER OWN EXPERIENCE WAS THE MAIN FACTOR IN TURNING THIS DISCUSSION INTO A MORE PRODUCTIVE LEVEL OF COMMUNICATION. AFTER THIS POINT, RAY BEGAN TO COMMUNICATE MORE OPENLY.

5A -- Critical Step Five -- Discuss possible solutions and agree on specific action.

(Video Lynn)

LYNN: WHAT DO YOU THINK WE CAN DO ABOUT IT?

(Disolve)

(Next Scene)

LYNN: WHAT CAN WE DO TO CHANGE THAT?

(Switch to Narrator)
NARRATOR: BOTH OF THESE STATEMENTS ARE CLEAR EXAMPLES OF INVITING RAY TO DISCUSS SOLUTIONS. THEY ARE ALSO EXAMPLES OF KEY PRINCIPLE THREE — ASK FOR HELP IN SOLVING THE PROBLEM. LYNN AVOIDED TELLING RAY WHAT SHOULD BE DONE. INstead, SHE ASKED FOR HIS IDEAS. BY DOING THIS, SHE WAS ABLE TO GET SOLUTIONS THAT RAY COULD ACCEPT, SINCE THEY CAME FROM HIM. THE FINAL PART OF THIS CRITICAL STEP IS TO AGREE ON SPECIFIC ACTION. IT WAS HANDLED WITH THE FOLLOWING STATEMENT.

(Video switches to Lynn)

LYNN: OK. SO LET'S SEE. I'M GOING TO DROP IN FOR LAB MORE OFTEN. AND YOU ARE GOING TO KEEP ME INFORMED OF THE MAJOR ITEMS CONCERNING THE PROJECT. HOW DOES THAT SOUND?

Next scene — Critical Step Six — Indicate your confidence that the situation will improve.

LYNN: GOOD. YOU KNOW, RAY, I THINK WE'VE TAKEN A STEP IN THE RIGHT DIRECTION, AND I APPRECIATE YOUR BEING ABLE TO DISCUSS THIS.

RAY: I GUESS IT HELPED.

LYNN: I KNOW IT'S NOT EASY TO DISCUSS THESE THINGS, BUT NOW THAT WE HAVE GOT IT IN THE OPEN, I THINK THINGS WILL BE BETTER FOR BOTH OF US.
(Switch to Narrator)

NARRATOR: WITH THIS STATEMENT, LYNN ENDED THE DISCUSSION ON A HIGH NOTE. SHE EXPRESSED CONFIDENCE THAT THINGS WOULD IMPROVE BUT DIDN'T OVERSTATE WHAT HAD BEEN ACCOMPLISHED. RAY AND LYNN WILL NEED MORE DISCUSSIONS IN TIME, WORKING TOGETHER, BEFORE THE CONFLICT IS GONE.
Summary of Model

NARRATOR: Before giving you a chance to use these skills in a practice exercise, let's summarize what Lynn did.

Lynn opened this discussion effectively when she said, "I feel that we're not anticipating problems as quickly as we should, and, in fact, I felt at Monday's staff meeting you were not participating very much." By using specific descriptions of Ray's behavior, Lynn avoided accusing Ray of being wrong, but opened the discussion with a straight-forward approach. Lynn also gave Ray several opportunities to offer his reason for this behavior when she asked, "Was something bothering you" and "Is there any reason why we cannot discuss these problems?"

The discussion seemed to become more productive when Lynn expressed her understanding of Ray's feelings by saying, "I really know how you feel. I had a supervisor that I was uncomfortable with, and I couldn't discuss my problems openly." By relating Ray's feelings to a similar experience that she had, Lynn showed Ray that she could accept how he felt.
Finally, Lynn was very effective at reaching some agreement on actions by drawing solutions from Ray with questions like, "What do you think we can do about it?" and "What can we do to change it?"

This discussion was a positive step forward to resolving the conflict between Lynn and Ray.
APPENDIX C: SKILL PRACTICE USED BY BOTH SKILL PRACTICE CONDITIONS
You are Pat Tweed, supervisor of the Traffic and Transportation Department of a government agency. You are responsible for scheduling and contracting with company and commercial shippers to distribute agency materials throughout the United States. You have been in this position for five years and work well with the employees in your department. However, you are currently experiencing a problem with one of your transportation specialists, Jim Conrad. For the past few months, Jim has appeared to be avoiding you. When you ask questions about the job, Jim gives you short, terse answers. He even has begun going to your boss, Lynn Towers, with technical problems instead of discussing them with you.

In the past, you and Jim have had a very good relationship. In fact, six months ago you told him that you felt he was "ready now" for a promotion. Jim seemed quite pleased. Since that time, you have recommended him for three different positions, but the jobs were given to more qualified people.

In all three of these cases, Jim was competing with minorities, and your company is committed to moving minorities and women into supervisory positions. Even though there is still pressure to continue promoting qualified minorities and women, you feel that Jim will have a good chance next time around. This chance could be enhanced if: (1) Jim would document more of his significant accomplishments, and (2) he would complete his college degree. Jim has three years of college credits now. Although it is possible to get a promotion without a college degree, candidates with degrees usually are selected over those without degrees.

You are not sure what has affected Jim's attitude, but you have decided to talk it over with him. Jim's performance is still as high as ever, but this lack of communication could lead to problems in the future. You have asked Jim to come to your office before quitting time. It is now 4:30 p.m., and Jim is now entering your office.
RESOLVING CONFLICT
Skill Practice - Employee
Jim Conrad - Transportation Specialist

You are Jim Conrad, a transportation specialist for the Traffic and Transportation Department of a government agency. Your supervisor is Pat Tweed. You and Pat have had a good relationship, and until recently you felt you could trust Pat. Pat always has kept your best interest in mind when assigning projects or in making suggestions for career opportunities. Six months ago Pat even told you that you were "ready now" for promotion.

Since that time, however, three people have been promoted whose qualifications you easily matched. Since all three people promoted were minorities, you figure that they were promoted to achieve your agency's Equal Employment Opportunity goals. As far as you can see, you are as qualified as they are -- maybe more qualified. You have three years of college credits, and your work has been rated "excellent" for the past three years.

You now suspect that Pat was not really serious about your promotability. You wonder how you can be considered promotable if the agency selects only minorities or women for higher positions. You are not happy with Pat or the agency, but you have not reduced your work output because you are strongly committed to doing your best at all times. However, you do avoid talking with Pat. If you have a serious problem, you usually go to Lynn Towers, Pat's boss. You worked for Lynn before and you respect Lynn's technical competence in the transportation business.

Pat has asked you to stop by the office at the end of the day. You are not sure what Pat wants to talk about. It is 4:30 p.m. and getting close to quitting time. You are entering Pat's office.
APPENDIX D: TRANSCRIPT OF FEEDBACK PROVIDED
AFTER LIVE SKILL PRACTICE
Ok. How do you think you did? Why?

Let's go through the Critical Steps. First you started out very, very well at the top of Critical Step #1. You stated specifically what you had been observing over the past month or so and you stated why it concerned you because it takes more time when you do this. Then you asked her why. She gave a reason, you asked another follow-up question: "Are there any other reasons, is there anything else?" So you really probed, you listened very attentively to what she was saying. The most difficult part of this whole module is Critical Step #3, because it's very uncomfortable to talk about these conflicts. First of all you're not really sure if it exists. Second, there's always a human tendency I think to sweep conflict under the rug, and kind of forget about it, hoping it will all go away. Unfortunately it won't go away. It will fester and things will just get worse and worse. When you hit the conflict right on and you say, "Do you resent the fact that I got a promotion because of my age?", she has basically two options. She can answer and say, "Yes I do resent it, I resent it because I felt that I was qualified, I wasn't considered for it and I would have liked it too", or "I'm confused about what my future is with the company," or she could have said, "No, there's no conflict whatsoever" at which point you would just end the discussion and say, "Ok I must have misread some of the signals, thank you very much for that input." The key point in Critical Step #3 is to come right out and say, "Do you resent the fact that I got a promotion because I am older, male, whatever the reason, degree?" You said (and I wrote it down)
"Is there any conflict with me?", and she said "No" and you said "Ok." Then you said "Is there any trouble?" She was trying to pin you down by what you meant by trouble. And that's where the discussion kind of got off track because you didn't ask specifically about the conflict and she was waiting for you to ask that. If there is conflict, that's when you get into the rest of the Critical Steps about finding something specific to do. You can't always solve it. You're not always going to be able to come up with a way to solve it. The solution may be to simply recognize it exists and to both work with that fact and try in the future to work toward a promotion for the other person, but there's no way you can say yes you'll get the next promotion, because you don't know that. But you can say as her supervisor, "I will try to steer you in the right direction, I'll get you in the correct training programs, I'll make sure upper management notices your performance." Anything like that is a specific concrete way of dealing with her problems and her concerns. Then provide empathy by saying, "I really understand." You did do Critical Step #6 well. At the end you said, "It'll help us work better. Things will get better." So you showed the confidence at the end that things will get better. But the really key critical part of this whole module is to hit Critical Step #3 right on the head. Just come right out and say, "Do you resent the fact that I got the promotion." Ok? Do you have any questions or concerns about it?

So if you don't do Critical Step #3 correctly, you're not going to get to #4 or #5?

That's basically it.
APPENDIX E: TRANSCRIPT OF FEEDBACK PROVIDED AFTER CAI/INTERACTIVE VIDEO SKILL PRACTICE
Statement 1 -- You have taken a major step toward resolving this conflict. You were able to uncover the reason for Jim's behavior and gained Jim's agreement to take actions that can resolve the conflict.

Statement 2 -- You started off the discussion by focusing on the inappropriate behavior when you said, "You seem to be going out of your way to avoid me" and later asked him why he has been going to Lynn with technical problems. These statements avoided accusing Jim of a bad attitude. Instead you were able to get into an explanation of why Jim was going to Lynn with problems.

Statement 3 -- In this discussion, you kept from becoming defensive when Jim said he felt Lynn could give him better answers than you. You did not respond by making demands or avoiding the issue. Instead you asked him if something was wrong. This encouraged him to be more open with you.
(Alternative Positive Behaviors)

The next statement will be inserted here based on the following conditions.

Statement 4-A

If the student reached Statements 2-B and 3-B, then --

when you told Jim that he was being totally uncooperative and then later told him he should keep you informed, you may have been closing off your opportunities to get Jim to explain why he had been going to Lynn and avoiding you. You would have gotten an explanation more quickly if you had described the behavior and asked, "Why have you been going to Lynn before discussing problems with me?"

Statement 4-B

If the student went to Statements 2-A and 3-A, then --

In the first part of this discussion, Jim was denying that anything was wrong. This was occurring because you were not describing the behaviors as clearly as you could. You used questions like "Maybe I'm imagining things, but I still think something's wrong" or suggestions like, "I think we should talk about our relationship." You could have gotten in a discussion of the reasons quicker if you had described Jim's behavior as you seem to be avoiding me and ask, "Why have you been going to Lynn with problems before coming to me?"
Statement 4-C

If the student went to S-3, then --

When Jim told you his reason for resenting you, you responded by telling him it was not your fault he hadn't been promoted, and you told him he needs to keep his performance up and show a more cooperative attitude to get a promotion. Jim became defensive again. You could have avoided Jim's defensive reaction by responding with empathy, saying something like, "I can understand you being mad at me. You want that promotion badly, and you think I'm not doing all I can to help."

This would have encouraged Jim to keep talking openly about his feelings.

Statement 4-D

If the student goes to Statement S-A but not S-A, then --

After Jim explained why he was feeling resentment, you said things like, "Your turn will come" or "I'm sure you're next in line." Jim reacted to these statements by thinking you were promising him the next promotion. It would have been more effective for you to respond with empathy at this point in the discussion.

You could have said something like, "I can understand why you would be mad. You want that promotion badly, and you think I'm not helping you." This would have encouraged Jim to keep talking openly about his feelings.
Statement 4-C

If the student did not go to any statements on the a side or b side, then --

You conducted the discussion without making any errors. All of your choices were good examples of the Critical Steps and Key Principles.

Everyone who goes to Statement 8 will get the following statements.

Statement 5 -- The tone of the discussion really turned around when you responded with empathy to Jim's explanation of his reason for the resentment. You said you understand his feeling angry, and you reflected back to him his feeling that you were not doing all you could to help him. By avoiding becoming defensive and showing that you understood, you let Jim know that you cared about his feelings.

Statement 6 -- This was a productive discussion because you were able to get Jim to discuss his feelings openly, and you took a positive step toward resolving the conflict.
NARRATOR: YOU HAVE TAKEN A BRIEF BUT IMPORTANT LOOK AT A PROCESS FOR RESOLVING CONFLICT. BEFORE WE CONCLUDE, LET'S REVIEW SOME KEY IDEAS ABOUT CONFLICT RESOLUTION.

CONFRONT CONFLICT. AS A SUPERVISOR, YOU NEED PEOPLE AROUND YOU WHO WORK COOPERATIVELY. THIS IS NOT OCCURRING WHEN THERE IS CONFLICT. PRODUCTIVITY IS REDUCED WHEN RESENTMENT AND TENSION EXISTS BETWEEN TWO PEOPLE. YOU MUST TAKE POSITIVE ACTION BY DISCUSSING THE CONFLICT WITH THE OTHER PERSON TO GET THE SOURCE OF RESENTMENT OUT IN THE OPEN.

THE GOAL OF THIS TYPE OF DISCUSSION IS A PRODUCTIVE WORKING RELATIONSHIP. KEEP IN MIND THAT OFTEN YOU WILL NOT RESOLVE CONFLICT TO THE POINT WHERE THE TWO OF YOU ARE GOOD FRIENDS. THE IMPORTANT GOAL TO BE ACHIEVED IS THAT THE DESTRUCTIVE BEHAVIORS, THE REASON FOR THE CONFLICT, MAY BE SO DEEPLY STATED, AS IN THE CASE OF PREJUDICE, THAT IT WILL NEVER BE TOTALLY ELIMINATED.

WHAT YOU WANT TO ACCOMPLISH IS THAT YOU AND THE OTHER PERSON AGREE ON ACTIONS THAT WILL PERMIT YOU TO WORK TOGETHER PRODUCTIVELY.

FOCUS ON BEHAVIOR. AN EFFECTIVE DISCUSSION ABOUT CONFLICT WILL FOCUS ON WHAT EACH PERSON IS SAYING OR DOING THAT IS CAUSING THE CONFLICT. ATTITUDES AND VALUES ARE VERY HARD TO CHANGE. BEHAVIOR IS SOMETHING THAT PEOPLE CAN CHANGE QUICKLY IF THEY UNDERSTAND THE REASONS WHY IT IS IMPORTANT FOR THEM TO CHANGE.
BY EXPLAINING WHY THE BEHAVIOR CONCERNS YOU AND LISTENING OPENLY TO
THE PERSON'S REASONS, YOU WILL BEGIN TO RESOLVE CONFLICT.

THIS IS A DIFFICULT SKILL TO MASTER. YOU HAVE TAKEN A GIANT STEP
TOWARD BUILDING THE SKILL, BUT WE RECOMMEND YOU GET MORE PRACTICE.

ONE WAY TO DO THIS IS TO SKILL PRACTICE WITH SOMEONE WHO
UNDERSTANDS THE SKILLS IN THIS MODULE. THIS MIGHT BE YOUR BOSS, A
PEER WHO HAS GONE THROUGH THE MODULE, OR AN INSTRUCTOR.

FOR THE SKILL PRACTICE, YOU DESCRIBE THE CONFLICT SITUATION AND
TAKE THE RULE OF THE SUPERVISOR WHILE THE OTHER SKILL PRACTICE
PARTICIPANT RULE PLAYS THE PERSON WITH WHOM THERE IS A CONFLICT.
IN HANDLING THE DISCUSSION, FOLLOW THE CRITICAL STEPS FROM THIS
MODULE.

TO HELP YOU HANDLE A RESOLVING CONFLICT DISCUSSION EFFECTIVELY IN
THE FUTURE, WE SUGGEST YOU USE THE CRITICAL STEPS CARD, INCLUDED IN
THIS MODULE, AS A GUIDE. DISCUSSION PLANNING FORMS, CALLED
DISCUSSION PLANNERS, HAVE ALSO BEEN INCLUDED TO HELP YOU ORGANIZE
YOUR THOUGHTS AND PREPARE FOR THE DISCUSSION IN ADVANCE.

BEING PREPARED IN ADVANCE AND FOLLOWING THE CRITICAL STEPS IN THIS
MODULE WILL HELP YOU RESOLVE CONFLICTS BEFORE THEY BECOME
DESTRUCTIVE TO YOU AND OTHERS.
APPENDIX F: PRE/POST INTERVIEW SIMULATIONS
RESOLVING CONFLICT

FORM A

Pat Jackson — District Sales Manager

Instructions for Participant

You are Pat Jackson, District Sales Manager for a chemical firm which manufactures and distributes a wide variety of chemicals for industrial use. You were promoted to this position just four weeks ago. Previously you had a good record as an account representative.

Four years ago, you and Terry Kirkwood graduated from the same university and were hired by the firm as account representative trainees. During these past four years, you have become friendly even though you were not assigned to the same district. You saw each other at meetings and have been interested in each other's progress with the firm.

You will now be Terry's manager. You are concerned that Terry resents your promotion. You were both hired at the same time and have had essentially the same work experience. You are not sure of this resentment, but in the last month you have spent two days making sales calls with Terry and have found Terry highly critical. Terry has indicated that account reps have to handle a lot of customer complaints and said, "I hope you don't forget now that you are a manager that the account reps need District Managers who will back them up rather than give in to the customer all the time."

You have also noticed that Terry never volunteers any information. Whenever you need information, you must ask for it. For example, Terry recently went to Jack Simpkins, one of your subordinates, regarding client complaints about the short shelf life of Zibenol, one of the company’s new products. Fortunately, Jack passed the information to you, and you were able to take steps toward correcting the situation. Terry should have come to you about the Zibenol problem immediately.

The comments, along with the failure to provide you needed information, make you wonder if Terry resents your appointment as District Sales Manager. You can understand why it may. Terry has a good record, has been here as long as you have, and may feel resentment that you were promoted.

You have decided to discuss this with Terry.
RESOLVING CONFLICT

FORM A

Terry Kirkwood -- Account Representative

Role Playing Instructions

You are Terry Kirkwood, account representative for a chemical firm. You have been with the firm four years, having accepted a position right after college. A month ago, Pat Jackson became the new District Sales Manager. You and Pat went through college together and were hired by the firm right after graduation. You both have been with the firm four years.

Pat is now your manager. You know that Pat has had a good performance record; but you're unhappy that you were not considered for the sales manager's job. You feel your experience and performance are equal to Pat's.

Also, the last couple of months, you have felt a certain amount of frustration with your job. It seems that customers are becoming more difficult to deal with. The accounts that you have to call on are somewhat critical of the products you carry. Some of this is due to increased activity by another major chemical firm which is moving into the territory. This firm is giving you trouble, particularly on price, and many customers are becoming quite critical of the pricing structure of your firm. Handling these customer complaints is not easy. When Pat made sales calls with you recently, you let it be known you expected support in this area now that Pat was manager.

In addition, you feel uncomfortable going to Pat when you have a question or problem. Instead, you talk only when Pat asks you questions and answer with minimal information. You prefer to talk with your friend, Jack Simpkins, one of Pat's subordinates. Just recently, you talked with Jack when you got several client complaints about the short shelf life of the new company product, Zibenol. You got the answers you needed from Jack and saw no reason to talk with Pat about it.

Pat just asked to talk with you.
You are Chris Richmond, Invoice and Inventory Manager for a pharmaceutical company which manufactures and distributes a variety of prescription and non-prescription drugs. You were promoted to this position two months ago. Prior to your promotion, you were an Invoice and Inventory Supervisor for three years. Your performance was rated well above average.

Four Invoice and Inventory Supervisors now report to you. One of them, J.J. Cook, became a supervisor at the same time that you did. Although J.J. is eight years older than you, the two of you have become good friends. For the past year, you have been carpooling to work. You often play tennis together on the weekends.

You will now be J.J.'s manager. You are concerned that J.J. resents your promotion. You both started with the company at the same time and have had essentially the same work experience. While you are not sure of this resentment, J.J. has been behaving differently since you were promoted. Last week, you overheard J.J. criticizing the new computerized inventory system that you helped design. J.J. remarked that the system was convoluted and confusing. J.J. stated that "younger people believe they can change the world overnight."

J.J. has decided not to carpool to work with you. Since last week, J.J. has been driving to work alone.

Also, J.J. refuses to come to you when problems arise. J.J. either guesses at the answer (sometimes guessing right and sometimes guessing wrong) or goes around you to your boss, Keith Jackson. For example, J.J. recently received a rush order for Aspernol, one of the company's best selling pain relievers. Due to production delays, there was not enough Aspernol in stock to fill the order. Rather than alerting you to the problem, J.J. decided to delay the order for two weeks. Fortunately, the sales representative that placed the rush order called you to inquire about the status of the order. By requesting that the production staff work overtime, you were able to obtain the required amount of Aspernol on time.

The comments, along with the failure to come to you when problems arise, make you wonder if J.J. resents your promotion to Invoice and Inventory Manager. You can understand why it may. J.J.'s performance record is good, and J.J. has been with the company as long as you.

You have decided to discuss this with J.J.
You are J.J. Cook, Invoice and Inventory Supervisor for a pharmaceutical company. You have been in this position for three years. Two months ago, Chris Richmond became the new Invoice and Inventory Manager. You and Chris became supervisors at the same time. For the last three years, you and Chris have been friends — playing tennis on the weekends and carpooling to work. You are eight years older than Chris.

Chris is now your manager. You know that Chris has a good performance record, but you are unhappy that you were not considered for the promotion. Your performance and experience are similar to Chris'. You feel your age gives a more mature perspective than Chris.

Also, you have been feeling very frustrated with certain aspects of your job. The new computerized inventory system is very confusing to you. Half of the inventory is done by computer while the other half is still done the old way. It will be several more months before everything is computerized. After an unnecessarily long delay by the computer last week, you vented your frustration to the other supervisors. You said that while the computer will probably save time in the long run, young people think they can change things overnight.

Production delays have also increased over the last six months. Sales representatives continue to promise rush deliveries without checking with the inventory department. You feel pressure from the production areas due to the delays, and you feel pressure from the sales people who are afraid of losing customers to the competition.

In addition, you feel uncomfortable going to Chris with a problem. You feel rather foolish asking for Chris' help. You would rather try to solve the problem yourself or talk to Keith Jackson, Chris' boss. Just recently, you received a rush order for Aspernol that could not be filled immediately. You have filled orders for that customer before and saw no problem in delaying the order for two weeks. You do not understand why Chris put pressure on the production staff to fill the order by working overtime.

Due to Chris' longer working hours, you no longer carpool to work with Chris.

Chris just asked to talk with you.
APPENDIX G: SAMPLE FEEDBACK REPORT SENT TO PARTICIPANTS
SUMMARY REPORT
Resolving Conflict Module

Prepared by:
Development Dimensions International
Development Dimensions Plaza
1225 Washington Pike
P. O. Box 1379
Pittsburgh, PA 15233
OVERVIEW

Before and after the Interaction Management module "Resolving Conflict," you participated in a videotaped skill practice. The attached report summarizes your performance. The videotapes were analyzed by trained assessors at Development Dimensions International.

Two ratings are provided on the report. First, the "Used/Not Used" column indicates whether or not you used the Critical Step or Key Principle. If the column is blank, the corresponding Critical Step or Key Principle was not used.

Second, an effectiveness rating was made for each Critical Step or Key Principle that was used. The rating scale is as follows:

+ -- Very Effective
/ -- Acceptable
- -- Not Effective

Please review your report carefully.
Summary Report
Resolving Conflict Module

NAME: ____________________________

<table>
<thead>
<tr>
<th>CRITICAL STEPS</th>
<th>BEFORE TRAINING</th>
<th>EFFECTIVENESS</th>
<th>AFTER TRAINING</th>
<th>EFFECTIVENESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Explain what you have observed and why it concerns you</td>
<td></td>
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<tr>
<td>2. Ask for reasons and listen attentively</td>
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<td>3. Discuss sources of conflict including yourself</td>
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<td>4. Indicate that you understand the employee's feelings</td>
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<td>5. Discuss possible solutions and agree on specific action</td>
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<tr>
<td>6. Indicate your confidence that the situation will improve</td>
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KEY PRINCIPLES

1. Maintain/enhance self-esteem

2. Listen and respond with empathy

3. Ask for help in solving a problem
RESOLVING CONFLICT

Name: ____________________________
Date: ____________________________

Instructions: Carefully read the Overview of the Situation. A series of questions pertaining to this situation is presented. Select the answer that you feel is most appropriate. Be sure to answer all of the questions.

Please note the time you started: ____________________________
Please note the time you finished: ____________________________
Overview of the Situation

You are Pat Dawson, Manager of Field Sales at National Publishers. National Publishers prints and distributes books to book stores, department stores, and other outlets across the United States.

You are located in the Eastern Region headquarters in Philadelphia. You are responsible for coordinating a sales force consisting of 35 sales representatives. The sales representatives are on the road approximately 55% of the time. While they are in the office, the sales representatives prepare sales presentations, call clients, review new products, and handle administrative responsibilities (such as scheduling trips, preparing budgets, etc.).

Each year, one sales representative from each region is chosen to present the Regional Sales Report to the President of the company. This is considered to be a very prestigious assignment; only the best sales representatives are selected. Frequently, the exposure to upper management which comes with this assignment leads to promotion.

You chose Lauren Brown to present the report this year. Her performance record is outstanding and you believe she has great potential for advancement. She has been on the job for three years.

Chris Thomas, one of the most experienced sales representatives in the Eastern Region was very upset about Lauren receiving the assignment. After overhearing several of Chris's negative remarks, you have scheduled a meeting with Chris to discuss the situation.
l. Chris has just entered your office and said, "Hi, Pat, what's the problem?". Select your response:

_____ a.) There's no problem, I hope. I just wanted to see how you've been.

_____ b.) I don't have any problems with your performance. It is excellent as always. I am concerned, though, about your attitude. What's going on?

_____ c.) I thought we could talk about some of your new clients. You have been out of the office quite a bit lately and I have not had a chance to hear how some of your accounts are being handled.

_____ d.) I've noticed you have been very quiet lately. When I ask you a question all I get is "yes" or "no." I am concerned about this because your input is very important.

_____ e.) I cannot understand why you have been so distant lately. You always were the one I could count on for useful information. Now, I feel we are losing touch. Why?
2. Chris states that the workload has been heavy lately. Chris has been on the road a lot and is tired. Select your response:

   ____ a.) I understand how exhausting it is to travel so much. I've been very busy myself. But, we all just have to keep pushing ourselves. Is anything other than the traveling bothering you?

   ____ b.) Are you having trouble handling the job?

   ____ c.) Why is the workload so heavy? Has anything different been happening?

   ____ d.) If you want another person assigned to your territory, let me know. It would reduce your commission, though. Are there any other problems?

   ____ e.) Is that the only reason you have been so out of sorts?
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3. Chris admits that the pressure to increase sales has been very intense. There are several new competitors in Chris's territory. Select your response:

____ a.) Is there anything else bothering you?
____ b.) I get the feeling that something is upsetting you. What's wrong?
____ c.) Take it easy, Chris. The pressure is not that bad. I think something else is bothering you.
____ d.) I am sure you can handle the competition. Please let me know if anything else is wrong. OK?
____ e.) The competition is getting worse? That surprises me. I had not realized the situation was so bad. I'm glad you are handling the territory. You're one of my best salespeople. Are you having any other problems?
4. Chris hesitantly says, "Nothing is wrong, I guess." Select your response:

   -

   a.) Are you having difficulties with your co-workers?
   b.) Chris, do you resent me?
   c.) Are you unhappy with your job?
   d.) Chris, I still think there is something wrong. Why don't you tell me.
   e.) Chris, are you upset about Lauren getting the Regional Sales Report assignment?
5. Chris states, "Quite frankly, I think some people get preferential treatment." Select your response:

[ ] a.) I understand. I've been passed over for assignments too. You must realize that a bad attitude is not going to help the situation.

[ ] b.) I can understand how you feel. You are a good salesperson. You must think your performance has been overlooked.

[ ] c.) What do you mean? No one gets preferential treatment.

[ ] d.) I can understand that. It just seems to me you are overreacting to the situation.

[ ] e.) The best people receive the best assignments.
6. Chris replies, "I wanted the Regional Sales Report assignment. I don't think I was considered. What am I doing wrong?" Select your response:

   a.) Chris, you're an excellent employee. Hang in there and I'm sure your chance will come. Do you agree?

   b.) Chris, you are not doing anything wrong. You just need to be more involved in what is happening at the office. Do you agree?

   c.) First, I think you should improve your knowledge of office events. Then, I think you should work on your attitude. Do you agree?

   d.) Don't worry, Chris. You'll get the assignment next year. There is nothing to worry about, right?

   e.) Chris, you could broaden your knowledge of what is happening in the regional office by volunteering to act as chairperson on some of the regional committees. One is forming now. Do you agree?
7. Chris agrees and indicates it is time to go. Select your response:

___ a.) I'm sure you will feel better now that we've talked.
___ b.) Don't work too hard.
___ c.) See you soon.
___ d.) I'm glad we had a chance to discuss the situation.
___ e.) Thanks for stopping by.
Interaction Management Program

Resolving Conflict Module

Name: _________________________________________________________________

Date:  _________________________________________________________________

"Your cooperation in completing this questionnaire is greatly appreciated. All responses are confidential."
Section I: Please read each statement carefully. Respond to each statement by circling the response which most closely describes your opinion. Please do not leave any items blank.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The videotaped model helped me understand the critical steps.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>2. I will be better able to resolve conflict if I use these skills effectively.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>3. There was enough skill practice in this module.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
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<td>4. The materials used in this module were easy to understand.</td>
<td>SA</td>
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<td>N</td>
<td>D</td>
<td>SD</td>
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<tr>
<td>5. There was ample time to review the skills throughout the module.</td>
<td>SA</td>
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<td>N</td>
<td>D</td>
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<tr>
<td>6. Not enough feedback was given following the skill practice sessions.</td>
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<td>7. I used the critical steps card as a cue during the skill practice.</td>
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<td>8. The introduction provided a clear description of what would be taught in this module.</td>
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<td>9. The skill practice required me to develop my own responses.</td>
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<td>D</td>
<td>SD</td>
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<tr>
<td>10. The feedback I received after the skill practice provided clear information about the correctness of my responses.</td>
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<td>11. I enjoyed this module.</td>
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Section II: Please answer the following questions. Your responses should refer only to the Resolving Conflict module.

1. How many skill practices did you participate in?  

2. How many skill practices did you observe?  

3. How long did it take you to complete the Resolving Conflict module?  

4. How familiar were you with content of the Resolving Conflict module (check one)?
   1. Not at all familiar
   2. A little familiar
   3. Somewhat familiar
   4. Quite familiar
   5. Very familiar

5. Without looking at your critical steps card, list the critical steps presented in this module.

6. What, if anything, kept you from doing your best in this module? Be specific.
Appendix J: INTERCORRELATIONS OF DEPENDENT MEASURES
### DEPENDENT VARIABLE - POST TEST

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<th>Effectiveness of Critical Steps Used (II)</th>
<th>Overall ( R^2 ) (III)</th>
<th>Achievement Test Score (IV)</th>
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**DEPENDENT VARIABLE - POST TEST**

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