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The Effectiveness of Verbal Instruction on Teaching Behavior Modification Skills to Nonprofessionals

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THE EFFECTIVENESS OF VERBAL INSTRUCTION ON TEACHING BEHAVIOR MODIFICATION SKILLS TO NONPROFESSIONALS

by

Harvey J. Sepler

A Thesis Submitted to the Faculty of The Graduate College in partial fulfillment of the Degree of Master of Arts

Western Michigan University Kalamazoo, Michigan August 1975
ACKNOWLEDGEMENTS

For their support and guidance, it is a pleasure to acknowledge the help of many people. John Rankin, Robert Mack, and the workshop staff provided their facilities and cooperation, Nancy Hunter prepared the graphics, and Dorothy Graham typed the final manuscript. I am indebted to Sharie Myers, Dr. Henry Corte, and John Bushong for their patience and many suggestions, and to Dr. Howard Farris and Dr. Galen Alessi for their critical evaluation. Finally, I wish to thank Dr. Jack Michael, my committee chairman, for his helpful supervision and insight.

Harvey J. Sepler
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>INTRODUCTION</td>
</tr>
<tr>
<td>II</td>
<td>METHOD</td>
</tr>
<tr>
<td></td>
<td>Subjects</td>
</tr>
<tr>
<td></td>
<td>Training and Evaluation Materials</td>
</tr>
<tr>
<td></td>
<td>Procedure</td>
</tr>
<tr>
<td>III</td>
<td>RESULTS</td>
</tr>
<tr>
<td>IV</td>
<td>DISCUSSION</td>
</tr>
<tr>
<td></td>
<td>BIBLIOGRAPHY</td>
</tr>
<tr>
<td></td>
<td>APPENDIX</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Since the early application of animal learning research to the area of human behavior, much interest has been expressed concerning the use of behavior modification techniques to effect behavior change. Industries, schools, and institutions are among an ever-increasing population requesting professional assistance to examine and remediate existent programs (Hilts, 1974; Madsen, Becker, and Thomas, 1968; Pomerleau, Bobrove, and Smith, 1973). Trained professionals have been hired to develop programs for improving production, academic, and social skills. However, the development and analysis of behavior modification programs is a time consuming process, as is the shaping and maintenance of new behaviors (Ayllon and Michael, 1959). In order to adequately attend to all stages of a program, pre-existing staff are often relied upon by professionals to perform some of the essential training tasks. Therefore, the behavior modifier must work to manage the behavior of the mediator, if he is to modify the behavior of the client (Cone and Sheldon, 1973).

Much of the early research on paraprofessional behavior modification training programs have used a combination lecture-based and demonstration-based approach (Watson, Gardner, and Sanders, 1971). As a means of evaluating the effectiveness of these programs, the experimenters have tested the trainee's technical vocabulary as measured by his test performance, and the degree and quality of staff-client
interactions as measured by behavioral observations. However, with the exception of Gardner, 1972, there has been little attempt to examine the cross-modal effectiveness of either approach.

Within Gardner's study, effectiveness was defined as the trainee's "ability to apply behavior modification techniques and knowledge of behavior modification principles." That study was designed to test the effectiveness, in terms of "behavior modification ability," of two instructional methods (role-playing and lecture) on institutional attendants. Ability was measured by the use of the Training Proficiency Scale (Gardner, 1970), which evaluated attendants' proficiency of applying behavior techniques to other attendants assuming the role of residents. Knowledge of behavior modification principles was determined by performance on a written true-false test (BMT). Training consisted of role-playing sessions with feedback provided by an experienced behavior modification technician and lecture sessions presenting behavior modification principles. Attendants were matched in pairs and each member of a pair randomly assigned to one of two treatment groups, A or B. During Phase 1, Group A received training exclusively in the form of role-playing, while Group B received only lectures. Upon completion of Phase 1, each group entered Phase 2 in which there was a reversal of the training procedure used; thus, each attendant was exposed to a role-playing and lecture section of the training course. Attendants were evaluated with both measures (TPS and BMT) at three different times: Pre-treatment (prior to participation in any phase; Treatment (following participation in the first of two phases); and Post-treatment (completion of both phases). This design enabled
Gardner to evaluate the effectiveness of both role-playing and lectures in isolation (prior to attendants' exposure to both phases) and to examine post-treatment effects of two different sequences, with only order varied.

Results indicated that, although there were no significant differences between either group's applied and verbal skills at the pre- and post-treatment levels, proficiency skills for both groups were scored significantly higher following completion of the role-playing phase of the training course. In conjunction with those results, scores on verbal knowledge of behavior modification were significantly higher for both groups following completion of the lecture phase. Gardner states "performance skills are best taught within a teaching framework that emphasizes performance skills while verbal skills are best taught in a framework emphasizing verbal skills."

The present study attempts to examine the effect of a totally lecture-based training course upon the trainee's performance within the natural setting. It differs from the Gardner study, which measures performance skills within a role-playing situation involving only attendants, by observing trainees interacting with clients within the sheltered workshop. It was assumed that the natural setting, in which staff would be expected to work following training, would be the most appropriate environment in which to evaluate course effectiveness.

However, Gardner's design is especially relevant to the present study because testing at the completion of each phase allows for separate evaluation of instruction method effectiveness upon verbal and
applied skills. The present study replicates Gardner's procedure of bimodal testing following only the lecture phase of his course.
Subjects

The staff at a Work Activities Center (WAC) for adult retardates, in Battle Creek, Michigan, served as Ss. The total staff was comprised of 1 male and 3 females, with ages and educational levels ranging from 21 to 51 years, and 12 to 13 years, respectively. Three staff were previously exposed to behavior modification principles through unstructured conferences with the E prior to the start of the present study. During that time, the E served primarily as a counselor, suggesting various programs for individual clients. The fourth S was naive to behavior modification principles, as well as pre-existent programs for clients. Ss were randomly assigned to one of two experimental groups, two subjects per group.

Training and Evaluation Materials

The independent variable in this study was a structured behavior modification training program. The program consisted of a bi-weekly lecture series supporting information contained in the semi-programed text, Behavior Modification for Mentally Retarded and Autistic Children: A Manual for Nurses, Teachers, and Parents (Watson, 1971). The text presents behavior principles in everyday language (e.g., "Punishment is something which either decelerates or stops behavior", p. 57)
with question sections at the end of each chapter. Lectures and text were divided by the E into five weekly units. Unit topics were:

(1) definition and analysis of mental retardation; (2) shaping-chaining; (3) identification and administration of reinforcement; (4) punishment and its alternatives; and (5) stimulus control. Reading assignments and study objectives, specifying material emphasized in lectures and weekly exams, were given to trainees one week prior to each unit.

The program was scheduled similar to a three-hour college course, with three hours of lecture per week, one hour of exam, conducted by E. The first two days of each weekly unit consisted of a 90-minute lecture covering new material with a remedial lecture scheduled the fourth day. Testing occurred the third and fifth days, was scored immediately, and results posted in chart form by the E.

The four weekly exams were devised to test the trainees' knowledge of operant terminology, behavior principles, and verbal responsiveness to case descriptions. Exam questions were selected from objectives in equal distributions of true-false, fill-in, and short essay type. Examples of test items are: "An IQ score of 60 indicates that a person will never be able to learn appropriate social skills. Reinforcing closer approximations to a desired goal behavior is an example of _______. Provide an original example illustrating the use of response cost." Scoring for these tests was conducted on a "pass-fail" basis. A "pass" grade was contingent upon a score of 90% or better correct of the total test points. Passing the first exam of a unit resulted in the trainee being excused from work two hours early the final day of that unit. A score below 90% correct resulted in a "fail,"
and trainees receiving this grade were required to attend a remedial lecture the following day. Re-exams were given the fourth day by the E. A "pass" on this exam allowed trainees to be excused one hour early the final day of that unit. This was convenient with daily WAC routine as clients were typically excused two hours before staff. A score below 90% on the re-exam resulted in a "fail," and trainees receiving this grade were instructed to attend a personal remediation immediately following the posting of re-exam grades. The final remediation was intended to determine the locus of difficulty and provide individual instruction. For those Ss not "passing" either exam, no time-off was given. An additional contingency was implemented as an incentive for staff to successfully complete all units of the program at the 90% level. This consisted of a $15.00 bonus given at the termination of the experiment.

The major dependent variables were measures of behavior modification ability, as determined from staff-client interactions, and knowledge of behavior modification principles. A Behavior Inventory (BI) was devised to assess the behavior modification ability by measuring the number and type of verbal responses made by each staff as a consequence of client behaviors. Staff behaviors recorded were: (a) socially reinforcing client appropriate behaviors; (b) socially reinforcing client inappropriate behaviors; (c) socially punishing client appropriate behaviors; (d) socially punishing client inappropriate behaviors; (3) ignoring (not verbally responding to) client inappropriate behaviors; (f) ignoring client appropriate behaviors and neutral responses (that is, responses which did not coincide with above descriptions).
A social reinforcer was defined topographically in terms of a positive verbal statement (e.g., "Good boy, Jim"). A social punisher was similarly defined in terms of a negative verbal statement (e.g., "Stop doing that!" Madsen et al., 1968). An appropriate client behavior was recorded as task-oriented behavior, such as eye contact on work, stringing wire on hanger, talking with staff and fellow workers to obtain equipment and relevant information. An inappropriate client behavior was recorded as off-task behavior, such as non-work-related interaction with staff and other clients, and performing activities not included in work description.

The staff's working environment consisted of clients ranging in age from 19 to 56 years, with 66 males and 44 females. Clients were assigned to the WAC for special remediation in production and social skills. According to DMH IQ testing, client scores ranged from 37-85.

Knowledge of verbal skills was measured by the administration of Comprehensive Evaluation Exam (CEE). Identical exams were administered to all Ss prior to formal intervention by the E (pre-test) and at the completion of the training program (post-test), in order to evaluate the change in verbal responses at discrete levels of training. Comprehensive Exams consisted of 30 items covering operant terminology and principles as applied to situations within the WAC and were similar to items on non-comprehensive unit exams. An example of a CEE item is "Dean X has a boisterous personality. A useful description of that personality would be: (a) Dean is an extrovert; (b) Dean has a good self-concept; (c) Dean smiles at people and often starts conversations."
CEE scores were not posted and program completion was not contingent upon specified performance criteria on these tests.

Procedure

Subjects were randomly assigned to one of two experimental groups (A or B). A multiple-baseline design was chosen for the purpose of scientific verification (Baer, Wolf, and Risley, 1968). Baseline began for both groups on the same date and lasted for one week. During that time, no information was supplied to the Ss concerning the training program. On the following week, BI measures were announced to all staff. This announcement consisted of a 15-minute discussion concerning the behavioral categories and was presented during a routine staff meeting. The training condition was introduced to Group A on the third week. Training was introduced to Group B on the sixth week of the study. Following the five weeks of training, one week of post-treatment data was obtained for Group A. Due to the delayed training of Group B, no post-treatment data was obtained for that group.

Subjects were monitored once each day, either morning or afternoon, within a 30-minute block of interaction time. That is, observations were recorded only when Ss were situated in the work area with clients during prescribed work periods. To allow for more discrete recording of behavioral categories, record sheets were further divided into 5-minute intervals. Recording times for each subject were not fixed. Daily scores were totalled and graphed according to weekly performances.
Two weeks prior to the start of baseline, the E and reliability checker identified discrete topographies of specific staff and client behaviors which were compiled into the Bl. The combined interscorer reliability of these behavior descriptions, recorded prior to the institution of baseline, was 89%. Primary observations throughout the study were recorded by the E. Reliability measures were recorded by a trained observer on the second and fourth days of each week.

Sessions were divided into six 5-minute intervals, with individual reliability scores calculated for each behavior within one interval in the form of a ratio (agreements/agreements ± disagreements). Inter-observer agreement for each behavior category was calculated using two procedures: (1) reliability across all intervals; and (2) reliability across scored intervals. For total interval reliability, scores were averaged across the six intervals and X 100 to yield a mean session reliability (MSR) for each behavior category and subject. For scored-interval reliability, calculations were the same as above using only those intervals in which a behavior was recorded by at least one observer. Calculating MSR for each behavior was found to be more sensitive than scoring each interval as agreement or disagreement because data was evaluated in terms of frequency changes in specific behaviors. Bijou, Peterson, and Ault (1968) suggest that when calculating low-rate behaviors, observers could disagree on the occurrence of the behavior yet show high reliability due to their agreement on the nonoccurrence of the behavior. Hawkins and Dotson (1972) suggest that by scoring only intervals in which the behavior was recorded, spuriously high reliability for low-rate behaviors would
be avoided. However, it is further suggested that new standards for the acceptability of levels of agreement for this calculation be established. The MSR for each behavior and subject were averaged across conditions in order to arrive at a mean condition reliability for each behavior category and subject. Finally, these scores were averaged across the four subjects yielding a mean total reliability score for each behavior category.
CHAPTER III

RESULTS

All subjects completed the training program by passing four unit exams at the 90% level. Results from the Comprehensive Evaluation Exam are presented in Table 1 on page 13. Graphic representations of experimental results are presented in Figures 1-9 on pages 14-35. Each data point represents the combined scores of five successive observational sessions.

An increase in the number of total interactions was observed for all four subjects (Fig. 1). Data for Group A show an increase in interactions from 150 and 64 during pre-treatment to an average 173 and 160 following the institution of lecturized training. This is an increase of 15% and 67% in interactions, respectively. Group B data show a similar trend from 94 and 24 during pre-treatment to an average 188 and 147 for the five lecture units. This is an increase in performance of 100% and 513%, respectively. A multiple-baseline design was employed in order to identify the critical independent variables affecting subject behavior. Results across subjects demonstrated that informing staff of specific behavioral measures produced no sustained change in the number of interactions for any subject. Post-treatment performance for Group A was maintained above the pre-treatment level.

Concurrent with the training program, an increase in the number of positive statements contingent upon client behaviors was indicated.
Table 1

Percent - Scores on Comprehensive Evaluation Exam

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<td>Post-treatment</td>
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Figure 1

Total number of staff-client vocal interactions for the four subjects of the study. Weekly data points represent five combined daily scores. Treatment began on Week 3 for Group A and Week 6 for Group B.
GROUP A
PRE-TREATMENT 10U, U1, U2, U3, U4, U5 TREATMENT

GROUP B
PRE-TREATMENT INSTRUCTIONS ONLY (IO) TRAINING UNITS

PRE-TREATMENT INSTRUCTIONS ONLY (IO) TRAINING UNITS

NUMBER OF INTERACTIONS

WEEKS

figure 1

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for all subjects (Fig. 2). In an evaluation of staff behavior based upon the number of positive statements delivered, it is important to distinguish the proportion of these positive statements administered appropriately. This proportion is represented in Figure 3. Results indicate an increasing trend in performance concomitant with the lecturized training program. Pre-treatment percentage data for Groups A and B were 43% and 29%, and 34% and 15%, respectively. A small increase in performance for all subjects was observed when behavioral measures were announced. Treatment averages of 69% and 59% for Group A, and 68% and 56% for Group B showed an increase of 26% and 30%, and 34% and 41%, respectively, over pre-treatment. It should be noted that percentage curves for all subjects evidenced similar changes at identical periods in the training program. High performances in the latter portions of training may be correlated with reinforcement units or cummulated training effects. Inter-observer agreement for this measure was .86 (Table 2).

No systematic change in the number of negative statements was observed for any subject (Fig. 4). A slight increase in total negative statements was recorded for all staff when informed of the behavioral measures, but during training, data returned to pre-treatment totals. The percent of negative statements following client inappropriate behaviors is illustrated in Figure 5. Results indicated a substantial increase in performance for $S_2$ only. The pre-treatment number of negative statements for this subject, however, was exceptionally low. This confounds the issue, for what appears to be an increase in performance attributable to experimental intervention may merely be an indication
Figure 2

Number of positive statements delivered to clients by each of the four subjects of the study.
GROUP A

PRE-TREATMENT ID U₁ U₂ U₃ U₄ U₅ POST-TREATMENT

GROUP B

NUMBER OF POSITIVE STATEMENTS

PRE-TREATMENT INSTRUCTIONS ONLY (10) TRAINING UNITS

WEEKS

s₁
s₂
s₃
s₄

figure 2

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Figure 3

Percent of total positive statements delivered following appropriate client behaviors.
PERCENT OF POSITIVE STATEMENTS FOR APPROPRIATE CLIENT BEHAVIORS

GROUP A
PRE-TREATMENT 10 TRAINING UNITS POST-TREATMENT

GROUP B

PRE-TREATMENT INSTRUCTIONS ONLY (10) TRAINING UNITS

figure 3

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Table 2

Total-Interval and Scored-Interval (\(\)) Reliability Data

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Figure 4

Number of negative statements delivered by each of the four subjects.
GROUP A
PRE-TREATMENT 10, U₁, U₂, U₃, U₄, U₅, POST-TREATMENT

NUMBER OF NEGATIVE STATEMENTS

GROUP B
PRE-TREATMENT INSTRUCTIONS ONLY (10), TRAINING UNITS

WEEKS

s₁
s₂
s₃
s₄

figure 4

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Figure 5

Percent of total negative statements delivered following client inappropriate behaviors.
PERCENT OF NEGATIVE STATEMENTS FOR INAPPROPRIATE CLIENT BEHAVIORS

GROUP A

PRE- TREATMENT 10 TRAINING UNITS U1 U2 U3 U4 U5 POST- TREATMENT

GROUP B

PRE- TREATMENT INSTRUCTIONS ONLY (10) TRAINING UNITS

WEEKS

figure 5

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of the degree of low-level responding prior to treatment. No substantial change in performance was indicated for the other subjects. Inter-observer agreement for this measure was .97.

Due to high variability in daily responding for subjects, no conclusive evaluation can be made regarding treatment effects on the number of neutral statements delivered (Fig. 6). Inter-observer agreement for this measure was .82.

As a result of the data variability for Group A and the stability for Group B's performance about the pre-treatment total, no appreciable change in the total number of staff ignoring responses can be demonstrated by the training program (Fig. 7). Of special interest, however, is the uncharacteristic increase in responding for three of the four subjects during Lecture Unit 4. This unit emphasized extinction as a means of decreasing undesirable behavior.

Although there was little change in the total number of staff ignoring responses, the tendency towards ignoring client inappropriate behaviors increased, while the tendency to ignore client appropriate behaviors decreased. An increasing trend in percent of ignoring responses following client inappropriate behaviors was clearly demonstrated for three of the four subjects (Fig. 8). Percent totals for Group A ranged from 73% and 60% during pre-treatment to an average 65% and 76% during training. Percent totals for Group B increased from 44% and 40% during pre-treatment to 82% and 81% during the five units. As with Figure 7, performance showed a substantial increase for all staff during Lecture Unit 4. Inter-observer agreement for this measure was .75.
Figure 6

Number of neutral statements delivered by each of the four subjects.
GROUP A

PRE-TRAINING UNITS

POST-TREATMENT 1 0  U, U2, U3, U4, U5 TREATMENT

GROUP B

NUMBER OF NEUTRAL STATEMENTS

PRE-TREATMENT INSTRUCTIONS ONLY (10) TRAINING UNITS

figure 6
Figure 7

Total number of staff ignoring responses following client behaviors.
Number of Client Behaviors Ignored

Group A
Pre-Treatment
Training Units: $u_1$, $u_2$, $u_3$, $u_4$, $u_5$
Post-Treatment

Group B
Pre-Treatment
Instructions Only (IO) Training Units

WEEKS

Figure 7

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Figure 8

Percent of staff ignoring responses following client inappropriate behaviors.
PERCENT OF IGNORED BEHAVIORS
THAT WERE INAPPROPRIATE

GROUP A
PRE-TREATMENT INSTRUCTIONS ONLY (20) TRAINING UNITS

GROUP B
PRE-TREATMENT TO TREATMENT POST-
TRAINING UNITS ONLY 10 TRAINING UNITS

WEEKS
There was little change in the percent of ignoring responses following client appropriate behaviors demonstrated for three of the four subjects (Fig. 9). (As indicated previously, the definition of appropriate behavior was modified for this measure to include only those behaviors clients were specifically asked to perform.) It should be noted that although the graphs for this measure appear to show a decreasing trend for all subjects, the totals indicated a notable change for S4 only when compared to pre-treatment levels. However, a substantial decrease in performance is shown for all subjects during Lecture Unit 4. Inter-observer agreement for this measure was .97.

Due to a leave of absence, it was not possible to record data for S1 during the sixth week.
Figure 9

Percent of staff ignoring responses following client "appropriate" behaviors.
PERCENT OF CLIENT APPROPRIATE BEHAVIORS IGNORED

**GROUP A**

PRE-TREATMENT 10 Training Units POST-TREATMENT 80-1

**GROUP B**

PRE-TREATMENT INSTRUCTIONS ONLY (10) Training Units

figure 9
CHAPTER IV
DISCUSSION

The results of this study indicated that a single medium, lecture-based, training program was partially effective in improving over-all performance within the natural setting. This conclusion adds generality to that of Gardner (1970), in which over-all staff performance was analyzed in terms of verbal skills (knowledge of behavior modification principles) and application skills (as evaluated within a role-playing situation). Based on his results, Gardner suggested that verbal skills be taught within an instructional medium emphasizing the proficiency of verbal skills. Present study results on the Comprehensive Evaluation Exam supported this by demonstrating an increase in verbal accuracy for all subjects. With respect to the proficient application of behavior modification techniques, Gardner stated that applied skills are best taught in a medium emphasizing those skills. Results from the present study appeared to support this general notion by indicating no substantial change in 4 of the 8 behavioral measures.

Although the data appeared in general agreement with Gardner's results, closer inspection of the individual response categories reveals distinct behavioral changes. As statistical averaging can mask individual performance, so, too, the combining of several discrete response classes may obscure specific response class changes (Loeber, 1971). Therefore, a previously developed response class coding system...
(Madsen et al.) was modified for use in this particular environment in order to detect subtle and discrete behavior changes. Results indicated a substantial improvement in several important measures. First, an increase in the frequency of interactions was shown. This increase was apparently due to a concommittent increase in the number and appropriateness of positive statements. Such changes may be correlated with program emphasis upon positive reinforcement, as well as relative effect upon client performance. For example, the effect of reinforcing appropriate behavior is an increase in the amount of reinforceable behavior. This correlation may then be responsible for an increase in the total number of staff-client interactions. Similarly, an evaluation of the effectiveness of a training program must include implementation of a response class coding system to record client behavior changes as well. In addition, an increase in the tendency to ignore client inappropriate behaviors was clearly demonstrated. As previously stated, the training program emphasized positive reinforcement as a method to increase desireable behavior and extinction as a means to decrease undesireable behavior. Therefore, it may be assumed from the present results that an increase in specific performance skills is correlated with the particular training materials employed in this study. Cone and Sheldon (1973) found a similar correlation between specific performance skills and audio-visual training materials. It would be useful to arrive at a more precise analysis of such a correlation.

The results also indicated that informing the subjects of the observational criteria had a short-term effect on their performance.
A substantial amount of research has concluded that the presence of observers does indeed affect the subject's behavior (Bechtel, 1967; Roberts and Renzaglia, 1965; Polansky, Freeman, Horowitz, Irwin, Papanis, Rappaport, and Whaley, 1949; Johnson, 1974; and Hursh, 1974). Johnson, et al., demonstrated that observer presence and delivery of instruction cued particular subject behavior. Other investigators (Ayllon and Azrin, 1968; Hopkins, 1968; Packard, 1970; and Gelfand, 1971) have stated that instructions alone are ineffective in changing behavior. With consideration to these contentions, the present design included an "Instructions Only" (I.O.) phase, in which specific behavioral measures were announced to all staff prior to the institution of training. The multiple-baseline design allowed for evaluation of the effects of observer presence and instructions upon staff behavior. The results were consistent with those of Polansky, et al., in which an initial change in behavior was observed followed by a gradual return to operant levels. It may be concluded that observer presence and informing subjects as to observational criteria produce only short-term effects upon behavior.

Another point must be made concerning observer presence. The design of this study provides evidence that the training effects are not simply the result of observer presence. Observer presence, in other words, is not a sufficient condition for training effects. But is it a necessary condition? Would the training have resulted in a change in staff behavior if the staff did not know they were being observed? There is no way to know this from the present design, but it is quite reasonable to assume that although there were no explicit contingencies
set up for performance on the job which conformed to training goals, there were probably implied contingencies. After all, the primary observer had previously stated that a $15.00 bonus would be supplied contingent upon training performance. Furthermore, he had the general cooperation of the plant supervisor. Some or all of these conditions may have been crucial for generating training effects, in addition to the training program itself.

Difficulty in obtaining consistently high inter-observer reliability with specific behavioral measures was experienced. According to Frame (1973), observer disagreement may result from: (1) inadequate observational criteria; and (2) "observer load," that is, the number of behaviors one is expected to record exceeds his capacity to record them. It is possible that in the case of neutral statements and inappropriate behaviors ignored, the observational criteria was not sufficiently specified. Concerning the second issue, Dotson (1974) distinguishes two types of observer load; one involving the frequency of occurrence of a particular behavior, and the other regarding the number of behavior categories in which to assimilate and record particular behaviors. In the present study, the second type of observer load would seem the more important. It appears premature to dispense with such a notion on the basis of two studies and it is suggested that additional research be performed in this area. Therefore, it is assumed that low inter-observer reliability in the present study may presumably be due to inadequate behavioral descriptions and the number and type of behaviors observed. Additional research into recording difficulties encountered in research within the natural environment may supply
useful alternatives to the present recording systems. For example, the use of mechanical devices to augment the discriminative recording of numerous response classes has been shown to be a reliable research technique (Lovaas, 1965).

A frequent criticism of training programs involves the lack of an organized control system in which to insure the continued maintenance of behavioral programs and improved staff performance following the completion of training. The literature presents few long-term follow-up studies showing a sustained training effect and there is little evidence upon which to assert that client behavior change has sufficient reinforcing value to maintain complex staff performances. A number of incentive systems have been devised for use in applied settings. Ayllon and Azrin (1968) suggested the use of salary increases, vacations, and work-shift preference contingent upon staff performance. Bricker, Morgan, and Grabowski (1968) suggested reinforcing personnel by means of trading stamps, videotape records, and social acknowledgement. While attractive to many personnel, the implementation of artificial incentive systems is often difficult within practical settings. However, these suggestions imply the availability of a number of natural reinforcers. Panyan, Boozer, and Morris (1970) and Patterson, Cooke, and Liberman (1972) have shown that contingent feedback systems provide incentives which maintain accelerated staff performance. As with the preponderance of literature concerning contingent feedback for institutional staff, the identification of critical staff behaviors remains inadequate. Merely reinforcing the amount of staff-client interaction time or the general number of such occasions neglects to
identify the critical components of a therapeutic interaction (Ayllon and Michael, 1959). The use of a behavioral coding system to direct the application of contingent feedback would enhance the efficiency of this incentive system. The initiation of such a system may be incorporated within the training structure by designing the final course unit about a review of the data collected during the four earlier weeks.
BIBLIOGRAPHY


Gelfand, D. M., Elton, R. H., and Harman, R. E. A videotape-feedback training method to teach behavior modification skills to non-professionals.


APPENDIX A

COMPREHENSIVE EVALUATION EXAM

The purpose of this test is to ascertain the degree to which you are familiar with the basic principles of behavior. Mastery of the terms and concepts presented on this test is the minimum basis on which to later judge the efficiency of our training program. There is no reward or penalty contingent upon your performance on this exam; it is merely an indication by which to determine your present understanding of behavioral principles.

Read the following examples and choose the correct answer.

1. While giving special instruction to a client concerning a craft, Fred X comes up, tugs the supervisor's sleeve, and asks "How many tokens do I need to buy a puzzle?"
   The supervisor should...
   a) tell Fred not to ask such questions while he is busy
   b) go on with his instruction and not answer Fred
   c) tell Fred how many tokens he needs to buy a puzzle

2. Don X is teasing another client which is keeping them from working. The supervisor wishes to stop this teasing. To do this most effectively, he should...
   a) ignore this bad behavior in the hopes that Don will eventually learn to appreciate the other client and stop teasing him
   b) abruptly say "Don, turn around and do your work—you're supposed to be working," and not say anything more
   c) encourage the other client to tease him back

3. Client R calls Sandy X a name. Sandy begins to cry and yell obscenities which disturbs other clients. The supervisor wishes to stop Sandy's outbursts. He should...
   a) calm her down by telling her how pretty she is
   b) take her arm, walk her to a closet, close her in it for 5 minutes after she stops crying
   c) announce to all other clients to quit calling Sandy names

4. What do you think will happen to Sandy's crying in the future (will it increase or decrease) if the supervisor does a? b? c?

5. After having repeatedly told Don (#2) to do his work, five minutes later, he is back teasing again. The supervisor should...
   a) yell louder and look more angry to frighten Don more
   b) take Don over to a corner, tell him you are dissatisfied with him, and leave him there
   c) take Don over to a corner and explain how he could behave more appropriately

46
6. After doing all I have done already to stop Don from teasing, he continues to do it frequently. I can then conclude...
   a) Don has deep-seeded problems which probably require a counselor
   b) Don is a perpetual troublemaker and the only way to stop him is to move him away from people all the time
   c) I have not found the way to change Don's behavior yet

7. Pam X is stringing a hanger as the supervisor walks by her chair. She calls out to him asking "did I do a good job?" To this, the supervisor stops and tells her how nice the hanger looks. What do you think will happen to Pam's asking behavior—will it a) increase or b) decrease?

8. I decide to ignore Pam's work every time she asks me to look at it. I can expect Pam's asking to suddenly...
   a) increase
   b) decrease
   c) remain the same

9. The supervisor in question 5 is rewarding Pam's...
   a) asking behavior
   b) craft excellence
   c) enthusiasm

10. A supervisor wishes to effectively define Ron X's bad moods. Which definition is the most useful in terms of changing Ron's behavior?
    a) Ron stops working, alienates himself from the rest of the group, and concentrates on unpleasant events
    b) Ron stops working as the negative side of his personality comes out and interrupts his good behaviors
    c) Ron stops working and mutters negative statements silently and to other clients

11. Bill X is a slow worker and holds up the whole contract line with unnecessary steps in his collation. Evaluating Bill's poor work habits, the supervisor should say...
    a) Bill's production is slow because he has learned to perform unnecessary behaviors and not rewarded enough for speed
    b) Bill is incapable to perform such contract work because his IQ is low and he doesn't understand that he should move faster
    c) Bill lacks incentive and is not motivated to work faster. He is just a slow person.

12. As a member of the staff, I see Sarah X working quietly on a coat-hanger. I would like that behavior to continue, therefore I should...
    a) not disturb her, so she continues to work, and give her a token later
    b) go over to her and tell her she's working well
    c) wait until she asks me to come over and look at her work, and then tell her she's doing a good job.
13. Ron Y is frequently engaging in disruptive behaviors. In order to understand and change his present behavior, I must know...
   a) his family history and problems in his past
   b) what disruptive behaviors he does, in what situations he does them, and what happens after he does them
   c) what he expects to happen from performing those disruptive behaviors as compared with what actually happens.

14. Dean X has a boisterous out-going personality. A useful description of that personality would be...
   a) Dean is an extrovert
   b) Dean has a good self-concept
   c) Dean smiles at people and often starts conversations.

15. In order to change a client's behavior, the client must...
   a) know what he is getting reinforced for
   b) know the difference between good and bad behavior
   c) be reinforced often and consistently.

Briefly define the following terms:

  Reinforcement

  Punishment

  Extinction

  Time-Out
APPENDIX B

SAMPLE UNIT EXAM

1. In what two ways can we account for the differences in behavior between "normal" people and retarded people?

2. The ______ procedure, in conjunction with the contingent reinforcement procedure, is used to teach new and more complex behavioral skills.

3. Briefly define reinforcement. (Hint: this is a two-part answer.)

4. T-F The process of stimulus control is used to build new and complex behavior in the individual.

5. A shaping-reinforcement procedure is used to get behavior to occur appropriately. T-F

6. T-F Reflexive behavior is behavior under the control of the individual.

7. Training a single behavioral component by reinforcing closer resemblances to the desired goal behavior is an example of _______

8. The notion of stimulus control is that within that particular stimulus situation a certain behavior has an increased likelihood of occurring. T-F

9. Information obtained through a baseline observation will help determine how often the client is to be reinforced for performing a desired behavior. T-F

10. The final behavior, or terminal behavior, which specifies the behavior the client will be expected to perform at the end of training, is called the _______

11. When the ______ procedure is used to get the behavior to occur, a step at a time, and ______ is given when the behavior does occur, one has a very useful method for teaching new behavior.

12. T-F A reinforcement contingency precisely defines the type of reinforcement attainable through successful completion of a specified behavior.

13. The operant behavioral paradigm is stimulus (antecedent)-behavior-__________(consequence). S-R-?
(1) 14. Prior to beginning the shaping, the therapist should identify the goal behavior and determine the client's existing __________________________. (This information is obtainable through baseline observation.)

(4) 15. Describe in detail a chaining procedure you would use on one client behavior within the WAC setting. (Be sure to specify the exact behavior, components, and consequences in the order in which you would perform your training. The entire procedure is not necessary, but detail enough steps so that the procedure is clear.)

(1) 16. The 3-step sequence in changing behavior is:

instruction
____________________________
____________________________
____________________________

(3) 17. The three main kinds of reinforcement an attendant may use when training a retarded individual are:

a)____________________________
b)____________________________
c)____________________________

(1) 18. T-F The more deficient he is in behavior involved in training him, the fewer steps will have to be shaped when teaching the retardate any given skill.

(1) 19. T-F When shaping a behavior, the supervisor should use only one kind of reinforcement; too many reinforcements slow the training and confuse the client.

(1) 20. T-F While shaping a behavior, the client fails to successfully perform a particular step in repeated attempts. The trainer should stop, and go back to the last step completed by the client before proceeding to a new step.

90% of 27 possible points = 24 correct.