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OPERANT CONDITIONING OF COUNSELOR VERBAL RESPONSES
THROUGH RADIO COMMUNICATION

DISSERTATION

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By

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The problem of this study was to determine whether using radio communication can facilitate learning in counseling practicums.

This study had four purposes:

1. To determine whether the use of radio communication would be effective in providing positive reinforcement to the counselor during counseling sessions.
2. To determine whether the use of radio communication would be effective in enhancing the learning of facilitative responses by counselors in practicum situations.
3. To determine the effect of positive reinforcement on the student counselors' performance.
4. To provide information that might be beneficial with regard to future research involving the use of radio communication in counselor training.

This study involved one experimental group and one control group selected randomly from two practicum classes. There were ten subjects in each group. Each group met once each week for a period of ten weeks. The first two weeks

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were used to obtain a baseline rate of empathic (and concrete) responses for each group. The experimental group subjects wore a radio receiver with an earphone concealed on their persons during one counseling session per week for the next eight weeks. When a subject emitted an acceptable empathic or concrete response while counseling, he was reinforced with a verbal "good" given to him over radio which only he could hear. Both groups turned in tape recordings of all of their counseling sessions and were videotaped during the first session (the fourth week of the semester) and again during the tenth session (the thirteenth week of the semester).

The Personal Orientation Inventory and the I-E Scale were administered to all subjects during the fourth week of the semester and again during the thirteenth week of the semester and used as measures of internal control. Three trained judges evaluated the subjects' performances by observing the videotapes and using the Counselor Evaluation Rating Scale. Each subject had a pre-test and post-test score on each instrument. The chi-square test of independence was used to determine whether the experimental group made a significantly larger number of empathic (and concrete) responses than the control group. The analysis of covariance technique was used to compare the experimental group with the control group with respect to the variable of counselor effectiveness. The .05 level of significance was

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chosen as the level at which the research hypotheses would either be rejected or retained.

The chi-square values obtained indicated a significant difference in the number of both empathic responses and concrete responses in favor of the experimental group.

Significant F-ratios were obtained from the analysis of covariance, indicating that positive reinforcement given over radio to subjects significantly increased their orientation toward internal control and also increased their effectiveness as counselors.

It was concluded that using a radio communication system to provide positive reinforcement can bring about changes toward more facilitative verbal behavior on the part of the counselor, can increase a counselor's internal control expectancies, and can increase a counselor's effectiveness with his clients.

TABLE OF CONTENTS

	Page
LIST OF TABLES	v
LIST OF ILLUSTRATIONS	vi
Chapter	
I. PROBLEM	1
Introduction	
Statement of the Problem	
Purposes of the Study	
Hypotheses	
Background and Significance	
of the Study	
Definition of Terms	
Limitations	
Basic Assumptions	
II. A REVIEW OF THE RELATED LITERATURE	12
III. METHOD	36
Description of Subjects	
Description of Raters and	
Rating System	
Apparatus	
Description of Instruments	
Procedures for Collecting Data	
Procedures for Analysis of Data	
IV. RESULTS AND DISCUSSION	58
V. SUMMARY, CONCLUSIONS, AND	
RECOMMENDATIONS	74
The Problem	
The Hypotheses	
The Method	
Results	
Conclusions	
Recommendations	
APPENDIX A	89

	Page
APPENDIX B	108
APPENDIX C	112
BIBLIOGRAPHY	120

LIST OF TABLES

Table	Page
I. Mean Frequency of Empathic Responses, Gain in Mean Frequency, and Chi-Square Values for Experimental and Control Groups	60
II. Mean Frequency of Concrete Responses, Gain in Mean Frequency, and Chi-Square Values for Experimental and Control Groups	63
III. Means and Standard Deviations on the <u>Counselor Evaluation Rating Scale</u>	65
IV. Analysis of Covariance Data for the Comparison of Ratings on the <u>Counselor Evaluation Rating Scale</u>	66
V. Means and Standard Deviations on the <u>I-E Scale</u>	67
VI. Analysis of Covariance Data for the Comparison of Scores on the <u>I-E Scale</u>	68
VII. Means and Standard Deviations on the <u>Personal Orientation Inventory</u> (Inner Support).	69
VIII. Analysis of Covariance Data for the Comparison of Scores on the <u>Personal Orientation Inventory</u>	70
IX. Rater Item Averages on the <u>Counselor Evaluation Rating Scale</u>	109
X. Baseline and Final Empathic Response Rates	110
XI. Baseline and Final Concrete Response Rates	111

LIST OF ILLUSTRATIONS

Figure	Page
1. Mean Empathic Response Rates for Both Groups During Baseline and Subsequent Periods	61
2. Mean Concrete Response Rates for Both Groups During Baseline and Subsequent Periods	64

CHAPTER I

PROBLEM

Introduction

The most important course of a master's program in counseling is the practicum, or internship. Generally, practicum is the last course taken on the master's level and the one in which the student is expected to get his first extensive counseling experience. In all of the student's previous courses he has learned about counseling theories and techniques. The practicum becomes a situation where the theories and techniques are applied to practice.

Typically, students who take the practicum course are placed in a situation where they counsel with people who have problems. This situation is extremely crucial for the practicum students because the clients are in need of help, and the students must be very careful not to add to the burdens of their clients by faulty counseling.

In this course the students are trying to find themselves, trying to determine how they will respond to clients, trying to discover which theoretical orientation they should follow, and learning how to relate to others.

During the practicum course, the students spend approximately fifty hours or more in actual counseling and

thirty hours or more in observing and providing constructive criticism for their fellow students in their counseling sessions. The responsibility of the student in the practicum course is considerable because the student is responsible for helping his client develop into a better adjusted person. The practicum student also is responsible for helping his fellow students become better counselors, while he must develop himself into a better counselor. Since the clients come in with real problems, the practicum students face a great deal of responsibility; and yet responsibility is even greater for the practicum supervisor or instructor.

Helping the students bridge the gap between acquiring knowledge and applying acquired knowledge to actual counseling sessions is the most difficult phase of work for the practicum supervisor. The problem of training counselors is compounded because the practicum course lasts only for one semester, which is a relatively short time. In addition to helping students integrate their counseling theory with actual practice, a supervisor must determine whether his students possess the ability and communicative skills necessary to become effective counselors.

Supervision of student counselors becomes even more difficult because the supervisor has no opportunity to intervene effectively in the student's on-going counseling session without interrupting the one-to-one relationship that provides the basis for counseling. This type of

situation forces the supervisor to rely on the commonly used practice of retrospection, which involves having the supervisor and the student go back and discuss what happened in the counseling session. This practice is slow and cumbersome, and it can be full of misperceptions of the counseling session by both the supervisor and the student because it does not occur until the session is over. If this process of feedback occurred during the counseling session, the student could learn more from his mistakes and capitalize more on his strengths than through retrospection.

A system which provides immediate feedback, such as radio communication, may prove to be an effective tool in counselor supervision. At present, there is little literature in the field concerning the use of radio communication to assist a supervisor in training his students, or in helping the students develop their communicative skills by conditioning with immediate feedback.

The use of immediate feedback to students, coupled with conditioning procedures, may be the best combination a supervisor can implement to be sure that the practicum course becomes a maximum learning situation in which the students can integrate their theory with experience and further develop their communicative skills.

Statement of the Problem

The problem of this study was to determine whether using radio communication would facilitate learning in counseling practicums.

Purposes of the Study

The specific purposes of this study were (1) to determine whether the use of radio communication is effective in providing positive reinforcement to the counselor during counseling sessions, (2) to determine whether the use of radio communication is effective in enhancing the learning of facilitative responses by counselors in practicum situations, (3) to determine the effect of positive reinforcement on the student counselor's performance, and (4) to provide information that may be beneficial with regard to future research involving the use of radio communication in counselor training.

Hypotheses

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

I. The students who have received immediate positive verbal reinforcement via radio will emit a significantly larger number of empathic responses than will the control group by the end of conditioning trials.

II. The students who have received immediate positive verbal reinforcement via radio will emit a significantly

larger number of concrete responses than will the control group by the end of conditioning trials!

III. At the conclusion of the semester, the students who have received immediate positive verbal reinforcement via radio will attain significantly higher (desirable) mean scores than will the control group on selected items from the Counselor Evaluation Rating Scale.

IV. At the conclusion of the semester, the students who have received immediate positive verbal reinforcement via radio will show greater movement toward internal control on the basis of their mean score than will the control group on Rotter's I-E Scale.

V. At the conclusion of the semester, the students who have received immediate positive verbal reinforcement via radio will show greater movement toward internal control on the basis of their mean score than will the control group on the Inner Support scale of the Personal Orientation Inventory.

Background and Significance of the Study

A practicum supervisor often has nine or ten students in his class and finds that he cannot observe and provide as much feedback to his students as they need in order to become effective counselors. The supervisor can listen to audio recordings of the counseling sessions made by the students and provide feedback to them. He can also watch

videotapes of the counseling sessions and provide feedback to the students as they watch the recorded sessions with him.

Using audio or video recordings in providing feedback puts counselor trainees in a position of learning about the mistakes they made one week and not being able to apply that knowledge until the next week. The supervisory process becomes frustrating for the practicum instructor because he cannot give the student immediate feedback that can be applied directly to the counseling session in progress.

The feedback process does not take place during the counseling session where it would do the most good for a student. This lack of immediacy in supervision may create little carry-over with respect to the students applying the knowledge they learned in their feedback sessions to their future counseling sessions.

In order for a student counselor to change his verbal or nonverbal behavior to become a more effective helper, the feedback should be given soon after the desired or undesired behavior has occurred. This will help modify behavior because the student can be made aware of his mistakes as he makes them or be praised for what he has done well during a session. If the feedback occurred in close time proximity to the student's behavior, it would become directly associated with his responses.

If a student were to be praised for exhibiting what an instructor felt was effective counselor behavior, this

praise would then become a reinforcer. It is axiomatic that any behavior that is reinforced has a greater probability of being repeated than a behavior that is not reinforced. The behavior must be reinforced as soon as possible after it occurs so that desired behavior is conditioned and not some other undesirable behavior. This process of increasing the frequency of a behavior by using reinforcement is referred to as operant conditioning.

Operant conditioning appears to be a better method to use in counselor training than the traditional supervisory procedure of waiting until the session is over before discussing a student's performance with him. Since a good part of a counselor's activity consists of verbalizing with his client, certain counselor responses are more indicative of counseling effectiveness than are other responses. The purpose of counselor training should therefore be to increase the frequency of effective responses. This purpose may be accomplished by providing the students with immediate reinforcement for emitting desirable counselor behavior. Reinforcement should increase the level of desirable counselor behaviors and change a counselor's behavior in a shorter amount of time than would the traditional supervisory process. Studies done by Cohen, Kalish, Thurston, and Cohen (1), Cushing (3), Gersten (4), and Greenspoon (5) all support using operant conditioning to

modify verbal behavior and are in agreement on the principles and procedures used in operant conditioning.

Several studies have been undertaken to determine the effect of operant conditioning using a radio communication system to provide immediate reinforcement. Korner and Brown (6) became disenchanted with the process of supervising clinical psychology trainees in the field of testing. The authors modified a hearing aid chassis and a miniature radio transmitter that allowed them to provide immediate feedback to their students. They found that the radio system helped the students become more proficient in the field of testing in a shorter amount of time than normally required to teach the necessary skills.

Using a monitoring system consisting of an FM wireless microphone and an AM-FM transistor radio with an earphone, Silverman and Kimmel (7) investigated the effects of immediate feedback on the behavior of student teachers. The authors were able to condition desired teacher verbal and nonverbal responses using operant conditioning and reinforcement procedures.

Cohn (2) used an FM wireless microphone and an AM-FM transistor radio with an earphone to train leaders for group counseling. The author found that this type of communication system allowed a student counselor to try out suggestions from his supervisor on-the-spot.

Counselors must have good communicative skills in order to be effective helpers. A radio communication system could provide immediate feedback to condition counselor verbal behavior to insure a higher degree of counselor competency than would be achieved using traditional supervisory processes. Implementation of an immediate feedback system may help upgrade the effectiveness of counselors being trained at the master's level.

Definition of Terms

For the purposes of this study the following definitions were formulated:

1. Empathic response--an empathic response was operationally defined and considered to be similar to the level three, four, or five responses on Carkhuff's scale (see Appendix A). An empathic response was any response in which the counselor attempted to attach states of feeling or emotion to the client's verbalizations, whether the client attached such feelings himself or not.

2. Concrete response--a concrete response was operationally defined and considered to be similar to the level three, four, or five responses on Carkhuff's scale (see Appendix A). A concrete response was any response in which the counselor asked the client to specify details, incidents, and behaviors relating to his problem, or when the counselor did this specifying for the client.

Limitations

This study was limited with respect to the number of subjects used because of the extensive time required to rate, provide reinforcement for, and analyze both video and audio recordings of each subject during his counseling sessions. It was limited to two classes of students taking the master's level practicum course at North Texas State University. The Hawthorne effect was another possible limitation in that one group may have performed better only because they knew they were involved in a study.

Basic Assumptions

It was assumed that the subjects would respond honestly to the instruments used to measure internal-external locus of control.

It was further assumed that each counselor would attempt to be as facilitative as possible in terms of being empathic, warm, genuine, and concrete regardless of whether he was working with a new client or a continuing client, and that the counselor would offer these facilitative conditions to all of his clients.

It was also assumed that the persons used to provide immediate positive verbal reinforcement and evaluation of audio and video recordings were very conscientious and objective in doing their tasks.

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CHAPTER II

A REVIEW OF THE RELATED LITERATURE

The review of related literature is presented in four sections: (1) Verbal Reinforcement; (2) Immediate Feedback; (3) Internal-External Locus of Control; and (4) Synthesis of the Literature.

Verbal Reinforcement

Verbal conditioning is dependent upon the type of reinforcement used. The usual reinforcement consists of verbal approval of the desired verbal behavior, and this verbal reinforcement has been found very effective in conditioning verbal behavior.

Cohen, Kalish, Thurston, and Cohen (2) studied the verbal behavior of ambulatory patients through the use of cards with a different verb printed on each. Patients were instructed to make up a sentence using one of the six personal pronouns (I, you, he, she, we, and they) and the verb on the card shown to them; then the experimenter wrote down each patient's responses. For the first twenty cards of an eighty-card deck, the patient was given no reinforcement, but for the remainder of the trials, the experimenter reinforced every sentence beginning with "I" or "we" with a flat, unemotional "good" response. The

experimenters found that the rate of "I" or "we" responses increased significantly with the presence of the verbal reinforcement. The results indicated that reinforcement does influence verbal response patterns, and that it is effective whether the subjects are aware of it or not.

Cushing (5) had subjects rate eighty pictures as being "liked" or "disliked" and assumed that expressing like or dislike for a picture had affective components. As a result of past experience and common cultural values, expressing "like" will have higher positively reinforcing components than will "dislike." Another assumption was that the spoken word "good" acts as a reinforcing stimulus because of its cue properties, and because it is a commonly accepted sign of social approval. The results of this study indicated that a verbal response with affective components can be manipulated to a significant degree by means of a verbal reinforcing stimulus (the word "good").

In another investigation using verbal reinforcement, Greenspoon (9) used three groups to study the maintenance of verbal responses. One group received the spoken word "good" for a correct response and nothing for an incorrect response. The second group was informed whether each response was correct or incorrect. The third group received nothing after a correct or incorrect response. The results of this study showed that the group which received the word

"good" maintained a significantly higher number of responses on later test trials than did the other two groups.

Counselors generally agree that certain core conditions must be offered by a counselor in order to increase his effectiveness with his clients. These conditions are empathy, warmth, genuineness, respect, and concreteness, being developed to their present state of objectivity by Carkhuff and Truax (see Appendix A). Truax (23) had five clinical psychologists analyze some of Carl Rogers' tapes. It was found that when the client expressed himself in a manner similar to the counselor, the counselor was more empathic, warm, accepting, and less directive. When the client expressed himself differently from the counselor, or fell back into his ineffective way of communicating, the counselor was less empathic, less warm, less accepting, and more directive. Empathy, warmth, and genuineness apparently act as reinforcers, and client outcome may be related to the counselor's use of differential reinforcement in trying to effect changes in the behavior and verbal responses of his client.

Gersten (7) investigated response differentiation in verbal behavior. Two phases were used in this study: one in which the subjects were reinforced for "living thing" responses, and one in which the subjects were reinforced for "mammalian" responses. The experimenter said "good" after "living thing" responses and nothing after all other

responses. This process continued through 100 responses. During the next 150 responses the experimenter said "good" only after each "mammalian" response. The results indicated that response differentiation was obtained by using reinforcement.

A study involving verbal reinforcement given to the counselor by a trained client was undertaken by Dustin (6) using ten counselors and ten clients. The clients met for three training sessions where they learned what "understanding" responses were and what instrumental learning was. "Understanding" responses were operationally defined as any statement in which the client's content was restated, where the counselor labeled a client's feeling, or where the counselor tried to grasp the client's feelings. The trained clients used a variety of verbal reinforcers ("right," "that's right," "correct," "you've got it," "that's it," "you're the first person to . . .," and "no one else ever . . ."). These short reinforcers allowed the clients to interrupt the counselors' remarks and provide the counselors with immediate reinforcement. The number of counselor "understanding" responses was increased by using trained client reinforcement and gave support to using direct training methods to cause specific changes in counselor behavior.

Immediate Feedback

The process of using radio communication to provide immediate feedback is not an entirely new concept. Korner and Brown (12) used a modified hearing aid chassis and a miniature radio transmitter to give feedback to clinical psychology trainees in the area of test administration. The authors became disillusioned with the usual supervisory process of students presenting detailed case notes because the students quickly learned to include in their notes those items which were sure to please the supervisor. A monitoring system was developed to allow the trainee to hear suggestions from the supervisor. The supervisor was careful to give comments only when there was silence between client and counselor. At first, some students got off to poor starts because of being observed and receiving suggestions from their supervisors. All trainees felt the exposure to this monitoring system was worthwhile and a good learning experience.

Ward (24) felt that teachers of medical psychotherapy or other interviewing skills wanted improved techniques in teaching communicative skills. Using a microradio receiver, similar in style to a hearing aid, and a microphone connected to an audio amplifier, Ward was able to radio comments to a student from an adjoining room. In the use of his system, Ward found there to be two types of supervisor intervention: constant intervention, where the supervisor

attempted to react to nearly every student response, and nodal intervention, where the supervisor reacted only at important junctures in the counseling session. In addition to interventions, Ward also found there to be two types of supervisor responses: dialogue formulations, where the supervisor tells the student exactly what to say and how to handle particular situations, and dynamics formulations, where the supervisor points out meanings and relationships, leaving the dialogue and pattern up to the student. Ward found that the students preferred nodal intervention and dynamics formulations, and adapted easily to the new supervisor process.

Pierce (17) believed that most supervisors who observe student clinicians through one-way glass would like to make a comment to the student during the session. A device allowing communication to a student without drawing the attention of others around him was constructed at the University of Minnesota--Duluth Speech and Hearing Center. The monitoring system consisted of an obsolete model hearing aid chassis with receiver and a specially built transistor circuit in it, which Pierce provided a schematic diagram for, and a microphone. This system allowed a supervisor to use "on-the-spot" guidance and support as effective tools in supervising trainees. In the four years this system was used, no parent or child had ever given any indication of interference from the technique.

Finding that a beginner's progress in learning skills to provide psychotherapy was slow and awkward, Ward (25) used a monitoring system similar to the one reported earlier (24) to help teach the necessary skills. The use of this system was imperative because the student has only a brief time to form his impressions of technique that may determine his orientation for the rest of his career. At the University of Pennsylvania School of Medicine, where Ward did his work, every senior student had a twelve-week experience in doing psychotherapy with patients in a weekly standard-length interview. Four such monitoring systems were in operation by several senior teachers who found that with this method of supervision it was possible to effect learning progress comparable to that of a year of residency training by previous methods. Student reaction to this method of supervision was favorable, and seventeen out of twenty teachers used the monitoring systems regularly.

Brooks and Hannah (1) had a personal reaction to one professor's observation that one outstanding lack in the training of clinicians was the supervisory aspect of the clinical practicum. Supervision should serve as the transition period from academic proficiency to professional application, and this supervision was either downgraded or neglected. The authors' monitoring system was similar to those used in preceding studies, consisting of a modified hearing aid chassis and a telephone pickup. Students were

apprehensive during initial trials but became adapted after three or four trials. Brooks and Hannah found that the most helpful feature provided by their system was the immediate reinforcement of desired student behavior.

Another type of study involving immediate reinforcement, but of a visible nature, was done by Goff (8) in an attempt to increase counselor facilitative verbal responses. The reinforcement consisted of a green pilot light being lit, visible to the counselor and not to the client, when the counselor made a facilitative verbal response. The response rates for the experimental group receiving reinforcement and the control group were tallied, and although the mean response rate for the experimental group increased over the rate of the control group, the results were not significant.

Hellervik (10) felt that reinforcement of selected counselor behaviors would be an effective means to bring about desired changes. One group of counselors was reinforced for confrontive behavior by using a display box with a red and a green light on it. Both lights were positive reinforcers; the green light was flashed for an approximation of the confrontive behavior, and the red light was flashed for the emission of the target behavior. The green light shaped the behavior. Hellervik found that the individual learning curves for the group being reinforced suggested that conditioning occurred, and the reinforcement process did not interfere with the counseling process.

Again, using immediate verbal reinforcement, Reddy (18) used six films depicting initial psychotherapy interviews which contained seven or eight interruptions asking "What would you do?" A monitoring system consisting of a tape recorder with a microphone connected to the input jack and an earphone connected to the output jack enabled Reddy to communicate with his subjects. The subjects were asked to respond during the film interruptions. One group of subjects received immediate evaluation of their responses, and after the films were presented the second group received evaluation of their responses. The third group received no evaluation at all. The treatment of the second group of subjects, who received evaluation of their responses after the films were shown, closely resembled the way results are presented in a typical counseling practicum. The responses made by the subjects were measured for "accurate empathy" using Truax's Accurate Empathy Scale. The results showed that the immediate feedback group's mean rating was significantly greater than those of the other two groups, and that the immediate knowledge of results was an efficient means of training.

Depending on what kind of equipment a person desires, the cost of monitoring equipment can reach astronomical levels and be out of the price range of most individuals. Stumphauzer (22) modified existing equipment in a fashion similar to Reddy's for a cost of two dollars. He used a

tape recorder that had a microphone connected to the input jack and an earphone connected to the output jack. This permitted the use of the tape recorder as a P.A. system, and with the earphone connected, only allowed the student to hear what was being said into the microphone. The earphone that Stumphauzer used was the only equipment purchased, and it had a twenty-foot cord attached to give the counselor some mobility. Development of this monitoring system was due, in part, to the frustration of supervisors working with therapist trainees in behavior modification. The supervisors were unable to offer suggestions or administer reinforcements to the therapist for appropriate behaviors. Stumphauzer found this monitoring system to be an effective means for directly modifying therapist behavior by making suggestions to the therapist and by using direct social reinforcement.

Herold, Ramirez, and Newkirk (11) used a monitoring system in supervising student teachers. This system consisted of an FM wireless microphone, which was set to transmit on an empty band of the FM radio frequency, and a pocket-sized AM-FM transistor radio with an earphone. A teacher equipped with the radio had complete mobility in the classroom. Field testing removed early fears that student teachers would object to being prompted. The monitoring system has been received enthusiastically by

student teachers in a bi-cultural, bi-lingual curriculum elementary school.

Silverman and Kimmel (21) felt that feedback to student teachers was important, but so was its placement in time relative to the performance. Traditional teacher-training programs involved a supervisor observing the student teacher, but then several days would elapse before the supervisor could sit down with the student and discuss the student's performance. With the delay in feedback, what transpired in the classroom was forgotten, distorted, or only partially remembered.

The monitoring system employed by Silverman and Kimmel consisted of an FM wireless microphone used to provide immediate feedback, and a pocket-sized AM-FM transistor radio with an earphone. The teacher behavior being modified was any positive vocal response by the teacher to appropriate student behavior. Verbal reinforcement was used as immediate feedback ("good," "very good," and "you're doing fine"). Baseline data were collected over three one-half hour periods, reinforcement was used for five one-half hour periods, and extinction occurred for three one-half hour periods. Reinforcement was provided on a continuous schedule.

Only two subjects were used in the Silverman and Kimmel study because of the extensive amount of time required to observe them in student teaching. Subject One had a

baseline mean of seventeen positive vocal responses per half-hour and this rate rose to sixty-six responses per half-hour during conditioning. The response rate for this subject dropped to thirty-nine responses per half-hour during extinction. Subject Two had a baseline mean of two responses per half-hour and this rate rose to nineteen responses per half-hour during conditioning. The response rate for this subject dropped to four responses per half-hour during extinction. The results showed that the response rate dropped sharply during extinction, indicating that the immediate positive reinforcement did have an effect on the desired behavior.

Practice and supervision of counselors was thought of as being the weakest part of a counselor training program by Cohn (3). The problem in practice and supervision is further exaggerated in training group counselors. Non-verbal as well as verbal cues may come from group members other than the one speaking. Each group member responds not only to the counselor but to others in the group, so the interactions at times are geometrically increased.

Cohn felt that supervision of the student counselor required audio or video recordings of the sessions and discussing mistakes and new approaches to follow so the mistakes would not be repeated. He also felt that the use of an FM wireless microphone and a pocket-sized AM-FM transistor radio with an earphone would allow the supervisor

to make on-the-spot suggestions and recommendations to the student. The student could, in turn, apply these suggestions immediately to the on-going situation instead of waiting for an identical situation to occur at a later date. A secondary value of this type of monitoring system is that it allowed the student counselor to feel as though he was not alone. In situations where the counselor could not think of anything to say or what direction to take, the supervisor, if he chose, could help the student.

Mitchell (15) worked with student teachers in physical education at Kent State University, and suffered a back injury which made her unable to supervise the student teachers. The usual supervisory system required her to go out onto the gymnasium floor and confer with the teacher. A monitoring system was developed using two walkie-talkies, one used by the supervisor sitting on the sidelines and the other worn in a special vest by the student being supervised. This system, although cumbersome, was found to be effective in assisting the student teacher without disrupting the class. The students observing the student teacher also benefitted by being able to hear the supervisor's remarks to the student teacher over an extra walkie-talkie unit, helping them prepare for their chance at student teaching.

Internal-External Locus of Control

The concept of internal versus external locus of control has developed from the social learning theory of Rotter (20) and deals with the individual's expectations of whether or not he is self-directed. This concept refers to the extent to which an individual expects to have control over the reinforcements that occur relative to his behavior. Rotter stated that an important factor of behavior is the individual's perception of whether he has control over the reinforcements relative to his behavior or whether the individual feels the reinforcements are externally manipulated. Internal-external locus of control describes the degree to which individuals accept personal responsibility for their actions instead of attributing their actions to forces outside of their control, such as luck, fate, or the influence of other powerful people.

Internal-external locus of control is an important concept for counselor training that has been neglected, judging from the literature. Combs, Avila, and Purkey (4) wrote that effective helping relationships will be a function of the use of the counselor's self in bringing about fulfillment of his own and society's purposes. This giving of self is possible only to the degree to which the counselor himself feels fulfilled. A deeply deprived self cannot afford to give itself away. Effective counselors must be "somebody" and possess adequate personal strength

to make sharing possible. The authors also wrote that it is only when people feel adequate that the self can be transcended and attention can truly be given to the needs of others. People who feel inadequate cannot afford the time and effort required to help others as long as they themselves feel deprived. The greater the degree of self-actualization of the counselor, the greater will be the freedom within which he can operate effectively.

Phares (16) has demonstrated the effect of situational variables on expectancy changes. It was felt that individuals in skill situations would utilize past performance as a basis of future expectancies for performance. Situations involving chance are not under control of the individual and provide little generalization for future performance. Phares predicted that expectancies for future reinforcement would show greater change following reinforcement in a skill situation than in a chance situation. The study involved using a line-matching task and a color-matching task. Phares told half of his subjects that the tasks were so difficult that success depended upon their skill. The findings indicated that increases and decreases of expectancies following success and failure were significantly greater for those subjects who believed the reinforcement was due to their skill.

Using Rotter's general description of the internally- and externally-oriented individual, Liverant and Scodel (14)

felt that under conditions involving chance, internally-oriented individuals would try to assure themselves of success and minimize failure by careful selection of probabilities. On the other hand, externally-oriented individuals would respond either on the basis of hunches or previous outcomes and ignore objective probabilities. Twenty-eight internally-oriented and twenty-six externally-oriented individuals took part in a gambling situation. Each subject was required to roll a pair of dice thirty times and bet on each outcome. On each roll of the dice the subjects selected one of four amounts to bet on. It was found that significantly more internally-oriented individuals than externally-oriented individuals chose more intermediate and fewer high or low probability bets, and they bet safer amounts of money.

In relating internal-external locus of control to counselor training, Raskin (19) stated that the task of the counselor is to think with the client rather than for the client. Raskin predicted that a client's perceived locus of control would become more internal during counseling. The findings of Raskin's investigation indicated that the more successful the counseling, the greater the degree to which the client based his values and standards on his own experiences and the lesser the degree of dependence upon the judgments and expectations of others.

Lefcourt (13) believed that a person who does not feel he controls outcomes (reinforcements) will be less alert and perceptive toward opportunities for obtaining reinforcements than one who is internally-oriented. An externally-oriented individual expects no success and when he fails, his expectation to fail is reinforced. The person who is internally-oriented is actively involved in situations and perceptive toward cues to reinforcement because he feels that these are determined by his own actions. Therefore, he expects to succeed, and when he does, his expectancy is reinforced. Lefcourt also found that individuals maintaining external control expectancies tended to withdraw from challenges and avoid involvement.

Synthesis of the Reviewed Literature

Research undertaken in the area of verbal conditioning and reinforcement has often yielded consistent results. Cohen, Kalish, Thurston, and Cohen (2), Greenspoon (9), and Gersten (7) have indicated that verbal conditioning through the use of a verbal reinforcement occurs faster than when no reinforcement is used at all. In regard to the effectiveness of this type of verbal reinforcement, Cohen, Kalish, Thurston, and Cohen (2), Cushing (5), Greenspoon (9), Gersten (7), and Dustin (6) found that the words "good," "correct," or "right" were effective reinforcers. Cushing (5) attributed this finding to the fact that those words

are a commonly accepted sign of social approval. Truax (23) found that the core conditions of empathy, warmth, genuineness, and concreteness offered by counselors in the counseling relationship act as reinforcers for certain desired client verbalizations and actions.

With respect to using immediate non-verbal reinforcement to condition behavior, little experimental research exists, and of that available, the results are contradictory. Hellervik (10) using a flashing light as a reinforcer was able to condition behavior of counselor trainees and achieve significant results. Geff (8) also used a flashing light as a reinforcer and found an increase in facilitative responses for the experimental group, but it was not significant.

Providing immediate verbal reinforcement by implementing an effective monitoring system is a promising field, but there is a serious lack of research in the area. Korner and Brown (12), Ward (24, 25), Pierce (17), Brooks and Hannah (1), Herold, Ramirez, and Newkirk (11), Silverman and Kimmel (21), Cohn (3), and Mitchell (15) all used a monitoring system of one type or another as technological advances in the field of electronics were made. The findings indicated that responses over the radio to the student had to be of a short duration in order to be understood. The students reacted in a positive manner to the intervention by radio because it allowed them to try

"on-the-spot" suggestions of their supervisors, and permitted the students to feel more confident knowing they were not left alone to flounder in their counseling or teaching sessions.

Reddy (18) found that it was possible to train students to be more empathic using a monitoring system and rating the students on Truax's Accurate Empathy Scale. There was speculation by all the authors that more learning took place for the students receiving the immediate verbal reinforcement because they were quickly informed of their mistakes and praised for what they did correctly. In addition, the monitoring systems were not expensive to obtain or difficult to operate. An interesting note is that Korner and Brown (12), Ward (24, 25), Brooks and Hannah (1), Silverman and Kimmel (21), and Cohn (3) developed their monitoring systems after becoming disenchanted with the inefficiency and neglect of the current supervisory practices for student teachers and counselors. All of the monitoring systems were valuable tools for providing direct social reinforcement to the students and thereby condition their behaviors and verbalizations.

Studies by Phares (16), Liverant and Scodel (14), and Lefcourt (13) in the area of internal-external locus of control have shown that reinforcement has the greatest effect on raising or lowering expectancies when the individual believes that his behavior is responsible for the

reinforcement. If the individual believes that the reinforcement is dependent upon external forces, he relies less on his ability and experiences, and tends to withdraw from the situation.

Internal-external locus of control has a place in counselor education programs. Raskin (19) found that the more successful the counseling, the greater the degree to which the client became internally-oriented and responsible for his actions. Combs, Avila, and Purkey (4) wrote that a counselor must feel that his own needs are fulfilled before he can devote his attention to helping others fulfill their needs. With this in mind, it becomes apparent that a counselor ought to be under an internal locus of control himself in order to be an effective helper. This type of helper will feel more adequate and more self-actualized. A counselor who puts his needs ahead of the needs of others is basically unfulfilled and feels inadequate.

Lefcourt (13) found that an individual having a strong belief that he can control his own destiny is likely to be more alert to cues relevant in providing direction for future behavior and more likely to take action to implement change and improvement in his life situation than one who is externally-controlled.

Developing a counselor who is internally-controlled should be the ultimate end product of a counselor training program. If this is to occur, the counselor trainees must

experience enough direct immediate reinforcement (from their supervisors) in order to realize that they have control over the reinforcements relevant to their behavior. The more immediate the reinforcement, the better the chances of effectively modifying desired behaviors. Research seems to indicate that radio communication may be the best means available for providing the necessary direct immediate reinforcement.

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CHAPTER III

METHOD

The purposes of this study were (1) to determine whether the use of radio communication is effective in providing positive reinforcement to the counselor during counseling sessions, (2) to determine whether the use of radio communication is effective in enhancing the learning of facilitative responses by counselors in practicum situations, (3) to determine the effect of this positive reinforcement on the student counselors, and (4) to provide information that may be beneficial with regard to future research involving the use of radio communication in counselor training. This chapter provides an explanation of the procedures used to achieve the purposes of the study.

Description of Subjects

The subjects included in the study were twenty students enrolled in two sections of the master's level counseling practicum during the fall semester, 1973, at North Texas State University. Both of the practicum classes were contacted a week after the semester began and offered the opportunity to take part in the experimental study through being observed during their counseling sessions and informed of their progress via radio communication. The students

were told that this system would enable them to know whether they were functioning effectively with their clients. All twenty students volunteered to take part, but only ten students could be used as an experimental group because of the extensive amount of time required to observe and provide feedback for their ten sessions. Each student was given a number from one to twenty and a table of random numbers was used to select an experimental group of ten students. The remaining ten subjects served as a control group.

All subjects were administered the Personal Orientation Inventory and the Internal-External Scale during the fourth week of the semester. They were administered these same instruments during the last week of the semester.

Description of Raters and Rating System

Three independent raters, doctoral interns in the counseling program at North Texas State University, were used in this study. The raters were selected in terms of their availability and willingness to participate. The raters were not informed of the purpose of the study.

Two of the raters assisted in providing immediate positive reinforcement via radio communication to two subjects apiece. All three raters were instructed in using the Counselor Evaluation Rating Scale and rated each subject in the study by observing videotaped segments of the subjects' counseling sessions. In order to provide

instruction and practice in determining which empathic responses and which concrete responses to reinforce, the raters were asked to go through a training session. Recorded counseling sessions, done by master's degree candidates in counseling from a previous practicum course, were used as training tapes. The raters were given examples of acceptable responses and shown how these responses related to level three, four, or five on Carkhuff's scales for empathic responses and concrete responses. Then, through the use of another recorded counseling session in which the empathic responses and concrete responses were already counted and identified, each rater was instructed to listen to the tape and to write out each response that he considered to be acceptable for reinforcement and indicate whether the response was empathic or concrete. The raters' lists were compared to the master list, and if each rater correctly identified eighty per cent of the total number of acceptable responses on the master list, satisfactory reliability was considered to be achieved. If satisfactory reliability was not achieved on the first tape, the raters would listen to another tape, and so on, until the desired reliability level was achieved. Three tapes were needed in order to reach the necessary degree of reliability.

Two of the raters provided immediate positive reinforcement using a monitoring system and reinforced acceptable

empathic responses and concrete responses by speaking the word "good" into the microphone they used. After each reinforcement that the raters delivered, they tallied a mark on a sheet of paper in a column labeled "E" for empathic responses, or "C" for concrete responses. These tally sheets were turned in after each session in which the raters provided reinforcement.

The raters also listened to tape recordings made by subjects in the control group and counted the number of empathic responses and concrete responses they heard. In the last week of the semester, the raters observed video-taped segments of the subjects' fourth and thirteenth counseling sessions. The segments were not marked as fourth or thirteenth session in order to insure that the raters would not be able to distinguish an earlier session from a later session. The raters evaluated the segments using the Counselor Evaluation Rating Scale. The three ratings for each subject on the pre-test were averaged to obtain one score for each subject. This same procedure was used to obtain one score for each subject on the post-test.

Apparatus

Immediate positive verbal reinforcement was provided by two separate monitoring systems. One monitoring system consisted of a Dynatronics FM wireless microphone, a Sony AM-FM transistor radio (Model TFM-3900W), and an earphone.

The other system consisted of a Realistic Apollo FM wireless microphone (Model FM-90), a Midland AM-FM transistor radio (Model 10-418), and an earphone. Two pieces of twenty-two gauge wire with an alligator clip soldered to one end were connected to the antennas of each radio to provide clear reception and eliminate using the external antennas of the radios.

Description of Instruments

The Personal Orientation Inventory and the I-E Scale were used to assess internal or external locus of control and selected items of the Counselor Evaluation Rating Scale were used to provide a measure of counseling effectiveness.

Personal Orientation Inventory

The Personal Orientation Inventory (6) assesses values, attitudes, and behavior relevant to Maslow's concept of a self-actualized person (see Appendix A). Two main variables are assessed:

1. Inner Support--which is the tendency of a person to act on and be guided by his own principles and motives in contrast to responding to a wide variety of external pressures. The support scale measures whether the individual's mode of reaction is characteristically "self" or "other" oriented.

2. Time Competence--which is the tendency of a person to live primarily in the present, free of hangups over past events and future uncertainties.

Inner Support is broken down into five facets of self-actualization. Each facet consists of a pair of closely related, but contrasting, variables. The first pair deals with interpersonal values: the self-actualizing value (SAV), the valuing of acting on one's own principles, is paired with existentiality (Ex), the valuing of flexibility in applying these principles. The second pair deals with admitted responsivity to one's feelings: feeling reactivity (Fr), sensitivity to one's own feelings, is paired with spontaneity (S), the free expression of those feelings. The third pair deals with attitudes toward the self: self-regard (Sr), the liking of one's self as a person, is paired with self-acceptance (Sa), the attitude of acceptance of one's weaknesses. The fourth pair is an "awareness:" nature of man (Nc), the attitude that man is basically good, is paired with synergy (Sy), the perception of opposites in life (e.g., lust and love) as really having something in common. The fifth pair deals with sensitivity to important aspects of interpersonal relations: acceptance of aggression (A), the acceptance of one's own hostile feelings, is paired with a capacity for intimate contact (C), the desire to respond to expectations and obligations without becoming a slave to them or using them to exploit people.

The Personal Orientation Inventory consists of 150 non-threatening items based on significant problems of value judgments seen by several therapists over a five-year period. Each item is a two-choice comparative value and behavior judgment.

Everett Shostrom, the author of the Personal Orientation Inventory, believes that "inner," or self-directed people are guided by internalized principles and motivations, while "other" directed people are greatly influenced by their peer group or other external forces.

The self-actualizing individual is described by Shostrom as a person who is more fully functioning and lives a more enriched life than the average person. The self-actualizer develops all of his unique potentialities and is relatively free of emotional turmoil as compared with others who are less self-actualized.

The test-retest reliability coefficients reported in the Manual for the Personal Orientation Inventory are .84 for the Inner Support scale and .71 for the Time Competence scale. The normative data are biased toward the college student population, being based on 2,607 college freshmen.

The content validity of the Personal Orientation Inventory appears to be good. The variables being assessed by the items are broadly defined, and the content of the items in each scale is appropriately varied. An important finding reported in the Manual is that the Personal

Orientation Inventory is able to discriminate between mental health levels of beginning therapy and advanced therapy groups at the .01 level of significance.

The Seventh Mental Measurements Yearbook (2) lists 123 studies using the Personal Orientation Inventory. Bruce Bloxom (1) states that the Personal Orientation Inventory lacks some desirable properties as an inventory because of item overlap on its subscales, but if only the two major scales of Inner Support and Time Competence are used, this problem ceases to exist. A large number of studies have indicated that the Inner Support scale measures feelings, values, and attitudes appropriate to Maslow's concept of self-actualization.

The I-E Scale

The first instrument measuring internal-external locus of control was designed by Phares and revised by Liverant, Seeman, and Rotter (5). The revision consisted of 100 forced-choice items, each comparing an internal belief with an external belief. Liverant, Rotter, and Crowne revised the I-E Scale again to the present form (see Appendix A).

The I-E Scale measures the generalized orientation of individuals toward internal rather than external choice of rewards. It is a forced-choice test containing twenty-nine items. Six of the items are not used in scoring, and their function is to make the purpose of the test more ambiguous.

The items of the I-E Scale deal with an individual's belief about the nature of the world and his expectations about how his reinforcements are controlled. The items do not specifically refer to a preference for internal or external orientation.

The reliability coefficients for the I-E Scale appear to be relatively stable with a split-half coefficient of .65, a Spearman-Brown coefficient of .79, and Kuder-Richardson coefficients ranging from .69 to .73 having been reported. These reliability estimates are moderately high for a scale with only twenty-nine items (5). Reported test-retest reliability ranges from .69 to .79.

The items on the I-E Scale were correlated with the Marlowe-Crowne Social Desirability Scale. Those items having a high correlation with the Marlowe-Crowne Social Desirability Scale were eliminated to provide the I-E Scale with item validity. Rotter reported that the items deal exclusively with the subjects' beliefs about the nature of the world, or in other words, they are concerned with the subjects' expectations about how reinforcement is controlled. Therefore, the test is considered to be a measure of a generalized expectancy and has construct validity.

Counselor Evaluation Rating Scale

The Counselor Evaluation Rating Scale (see Appendix A), developed by Kelly and Myrick (3), was used to assess

counselor effectiveness. For the present study thirteen items of the original twenty-seven items were selected to be used in determining counselor effectiveness with permission of the authors. In addition, the original seven-point Likert-type scale (+3 to -3) was reduced to five points (+2 to -2).

The Counselor Evaluation Rating Scale is composed of twenty-seven items which enable a respondent to rate a counselor's performance in counseling and supervision. The scale yields three scores: counseling, supervision, and total. Thirteen items are designed to assess an individual's work in counseling, while another thirteen items appraise the counselor's work and progress in supervision. The last item concerns the supervisor's recommendation of the student for a counseling position.

Development of this instrument followed a review of professional literature and compilation of a list of characteristics considered important for the evaluation of a student counselor. The list represented such factors as facilitative behaviors in counseling, acceptance, theoretical rationale, perception of clients, and self-evaluation skills. The pool of items was used during a twelve-week counseling practicum, and then the items were analyzed, clarified, and assessed in terms of face validity. The items selected for the final scale are representative of three facets in a counseling practicum: understanding of a counseling

rationale, counseling practice with clients, and exploration of self and counseling relationships. Understanding of counseling rationale (items 3, 6, 9, 14, 19, 23, and 26) concerns the way in which a counselor conceptualizes his work. Counseling practice with clients (items 1, 2, 5, 8, 11, 12, 13, 17, 18, 21, and 22) concerns the manner in which the counselor approaches his clients and the counseling techniques and behaviors he uses. Exploration of self and counseling relationships (items 4, 7, 10, 15, 16, 20, 24, and 25) concerns the counselor's amenability to personal and professional development. The scoring system is a Likert-type seven-point scale (+3 to -3) and nine items are randomly selected and negatively expressed in an attempt to counter the effects of a response set by those using the scale.

Kelly and Myrick, the authors of the test, used a split-half reliability procedure with a Spearman-Brown correction and reported a coefficient of .95 for forty-five student counselors and their supervisors. A comparison involving the thirteen supervisory items and the thirteen counseling items produced a correlation coefficient of .86. To test the stability of this instrument over a period of time, a test-retest reliability procedure was used with a time period of four weeks elapsing between ratings. This produced a .94 product-moment reliability coefficient.

The authors feel that their scale offers a standardized approach to conceptualizing counselor performance and progress and helps reduce the vagueness involving assessment. The scale can be used in evaluating performance in terms of total points scored.

The potential that this instrument appears to have in determining counselor effectiveness warranted its use in the present study.

Procedures for Collecting Data

Two intact sections of the master's level counseling practicum were used in this study. The two sections contained a total of twenty students. Half of the students were randomly assigned to an experimental group. The remaining students constituted the control group.

The experimental design of this study was the non-equivalent control group design, diagrammed as follows by Stanley and Campbell (7):

$$\begin{array}{ccc} O_1 & X & O_2 \\ & & O_4 \\ O_3 & & \end{array}$$

where O_1 and O_3 were pre-test measures on the Personal Orientation Inventory, the I-E Scale, and the Counselor Evaluation Rating Scale, and where O_2 and O_4 were post-test measures on the Personal Orientation Inventory, the I-E Scale, and the Counselor Evaluation Rating Scale, and

where X was the immediate positive reinforcement given over the radio to the experimental group.

The students in the practicums were allowed to counsel for three sessions prior to being administered the instruments used as a pre-test. This was done in order to reduce the initial anxieties of actual counseling as much as possible, and in order to help the students build some confidence in their abilities.

All subjects made tape recordings of their counseling sessions, and the tapes were turned in to be evaluated the week after they were made. Baseline rates for empathic responses and concrete responses were taken to see how many of these responses the subjects made without reinforcement. The baseline period was the subjects' fourth and fifth sessions. The tape recordings were held for a period of six weeks before they were turned over to the raters so that the raters would not know in advance whether they had a beginning or an advanced session and thus possibly bias their ratings. The tapes constituting the baseline period were specially marked in an inconspicuous place so they could be readily identified by the researcher but not by the raters.

The baseline rate for each subject was the average number of empathic responses and concrete responses for the subject's two sessions of the baseline period. The baseline rate for each group was the average of individual rates for the particular group.

It was suggested that the control group be given random immediate reinforcement by radio to neutralize the Hawthorne effect, but because the clients were actual clients with serious problems and in some cases referred by outside agencies, random immediate reinforcement could not be done. The practicum course lasts only one semester, and there would not be enough time remaining to correct any possible maladaptive behavior learned by the control group during random immediate reinforcement.

Each subject saw at least two clients per week, and some saw three clients per week. The subjects in the experimental group received immediate positive reinforcement for one entire counseling session per week. Theoretically, as time goes on, a counselor can be expected to have higher empathic response and concrete response rates because of the relationship that has developed over time with that particular client. The subjects were not told in advance of a session that they would be wearing the monitoring system to eliminate any response set on their part due to knowing beforehand which client they would be working with.

All subjects were videotaped for a twenty-minute period during their fourth counseling session and videotaped again during the last week of the semester (thirteenth session). Twenty-minute segments were used because of a limited supply of videotapes available. The tapes were mixed up so the raters would not know whether they were seeing a beginning

or an advanced session. The raters evaluated each subject using the Counselor Evaluation Rating Scale. All videotapes were rated in four weekly sessions.

The ten subjects in the experimental group received immediate positive reinforcement for eight sessions after the baseline rate was established. The immediate positive reinforcement consisted of the word "good" spoken over the radio to each empathic response and concrete response that met the minimally acceptable level for reinforcement. The reinforcement was given by two of the three raters and the experimenter over two separate monitoring systems. Reinforcement was given from the observation rooms adjacent to the counseling rooms. The reinforcing word was spoken softly into the FM wireless microphone and heard by the subject through the earphone from the radio. The voice of the rater giving the reinforcement was heard only by the counselor. The client could not hear the rater through the wall of the counseling room. Reinforcement consisted of only one word to facilitate understanding by the counselor while permitting the counselor to listen to the client.

Before their respective counseling sessions, the subjects (counselors) concealed the wire from the earphone under their shirts, blouses, or jackets, and concealed the flexible wire used as an antenna in the same manner as the earphone wire. The radios used as receivers were modified to add a belt clip which the male subjects attached

directly to their belts behind their backs, out of sight of their clients. For the female subjects, two rubber bookstraps were connected together and used as a belt because most of the female subjects did not wear belts of any type.

The subjects in the experimental group were instructed to tell their clients "I am receiving comments from my supervisor concerning what I say to you," if the clients noticed the apparatus on the counselor and asked about its purpose. The clients did not pay any attention to the monitoring system because they were aware that each counseling room was wired for sound, contained one-way glass for observation, and had a closed-circuit television camera visible above the one-way glass. The clients were made aware that the student counselors are observed by supervisors during the practicum. This was explained to the clients prior to counseling.

Empathy and concreteness were decided upon as dimensions of counselor behavior that would be reinforced because counseling can be roughly broken down into two aspects: an emotional phase, dealing with emotionally-laden personal feelings; and a cognitive phase, dealing with how these particular feelings came into existence and what behavior led to these feelings. It is a personal belief that because a semester lasts only sixteen weeks, there is too little time to be sure that a student has all the necessary qualities to be an effective counselor. Therefore, to

insure at least a minimally facilitative level of functioning, it was decided that if a student counselor could respond empathically and concretely to a client, he would be dealing with two main aspects of counseling and thus would increase his chances of being an effective helper. As a student counselor matured and gained more experience, he could develop the other dimensions of counseling (warmth, genuineness, etc.) which would further insure his effectiveness. Because of the current practicum time length, it is doubtful that many counselors come out of the course with all of the dimensions of counseling at minimally facilitative or higher levels.

The raters giving reinforcement tallied the number of empathic responses and concrete responses they reinforced for each subject they worked with and turned the tally sheets in to the experimenter after each counseling session. The response rates for the control group were determined by having the raters evaluate the tape recordings made by these subjects and tally the number of empathic responses and concrete responses they heard.

The conditioning lasted eight sessions for each subject in the experimental group, and a tape was collected from each subject in the control group during each of these eight weeks. The tapes made by the control group were evaluated by listening to each subject counsel with one client one week and another client the next to eliminate any response

set they may have given by knowing which session would be evaluated.

At the end of the semester, all subjects were administered the Personal Orientation Inventory and the I-E Scale. The raters began to evaluate all of the videotape recordings during the last week of the semester using the Counselor Evaluation Rating Scale.

Procedures for Analysis of Data

The means and standard deviations for both the experimental and control groups were computed from the pre-test and post-test scores on the Personal Orientation Inventory, the I-E Scale, and the Counselor Evaluation Rating Scale.

The null hypothesis of no significant difference between the means of the two groups on the three instruments was tested at the .05 level of significance. The null hypothesis of no significant difference in the number of empathic responses and concrete responses emitted by the groups also was tested at the .05 level of significance.

The data from the two baseline periods and the eight conditioning trials were shown graphically. One graph was used for empathic responses, and another graph was used for concrete responses for both groups.

To demonstrate inter-rater reliability on the Counselor Evaluation Rating Scale, a concept developed by Lawlis and

Lu was used (4). With the common use of rating scales to study therapeutic interpersonal skills, a group of judges is presented a stimulus that they must respond to by designating a level of functioning. The major question which arises is whether the judges can reach a unanimous perception of the stimulus. In the past the agreement of judges has been equated to the reliability of the ratings, but these are two different concepts.

The Lawlis and Lu technique is a non-parametric method of computing agreement and disagreement according to a criterion predetermined by the experimenter. For the present study, the criterion set was that the judges' ratings had to come within one point of each other. Each judge's item ratings for every subject on the Counselor Evaluation Rating Scale were averaged. The average score given on each item by each rater was compared to see if the evaluations came within one point of each other. An example may clarify the procedure. Rater I rated the twenty subjects comprising the experimental and control groups. On each scale item Rater I had twenty ratings, which were averaged to get one score. The other twelve items were also averaged for Rater I. Similarly, the ratings of Raters II and III were averaged for each rater. Then these averages were compared and used in the Lawlis and Lu formula.

The null hypothesis of agreement by chance was tested using the following chi-square formula:

$$\chi^2 = \frac{(N_1 - Np - .5)^2}{Np} + \frac{(N_2 - N(1-p) - .5)^2}{N(1-p)}$$

where N = the number of items or individuals being rated

N_1 = the number of observed agreements by raters

N_2 = the number of observed disagreements by raters

p = the probability of the judges achieving agreement
on an individual by chance

If the null hypothesis is rejected, the conclusion is that the judges have discriminating power that is not due to chance.

In addition to the Lawlis and Lu inter-rater reliability technique, the Spearman rank-order correlation coefficient formula was used as an additional measure of reliability for the Counselor Evaluation Rating Scale. Each rater's scores on all twenty subjects were rank-ordered on the basis of highest score to lowest score on the Counselor Evaluation Rating Scale. The rankings of the raters were compared in pairs. Rankings of Rater I were compared with rankings of Rater II; rankings of Rater II were compared with rankings of Rater III; and rankings of Rater I were compared with rankings of Rater III. A Spearman rank-order correlation was computed for each of those pairings.

Hypotheses I and II were tested by using the chi-square test of independence. The average baseline rates of empathic responses and concrete responses for the experimental and control groups were subtracted from the

average response rate of empathic responses and concrete responses emitted over the eight conditioning trials. The chi-square test of independence was done on the difference between baseline average and conditioning trials average for both empathic responses and concrete responses. This difference actually represented a gain in number of empathic or concrete responses during the time of the study.

Hypotheses III, IV, and V were tested using the analysis of covariance. Analysis of covariance, with pre-test scores used as the covariate measures, was used in order to provide statistical control in the experiment. The pre-test scores on the Counselor Evaluation Rating Scale, the I-E Scale, and the Personal Orientation Inventory were the covariate measures and the post-test scores on these same instruments were the dependent variables. The results are reported in terms of an F-ratio for the measures of each instrument used. The F-test for analysis of covariance statistically tests the differences between adjusted means, these means being adjusted on the basis of the covariate measure (the pre-test).

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CHAPTER IV

RESULTS AND DISCUSSION

To obtain an estimate of the reliability of the ratings on the Counselor Evaluation Rating Scale, a non-parametric statistical procedure developed by Lawlis and Lu (1) was used along with the Spearman rank-order correlation formula.

In the Lawlis and Lu statistical procedure, described in more detail in the previous chapter, a criterion was established that for a given item the raters' evaluations had to come within one point of each other in order for agreement to be considered satisfactory on that particular item. Each rater's average score for each of the thirteen items was computed, and these average scores for both the pre-test and post-test appear in Appendix B. For all of the items the criterion of agreement was met.

Using the formula provided by Lawlis and Lu, the chi-square value was equal to 40.8320 with one degree of freedom. This value was the same for both the pre-test and the post-test ratings. The values were significant at the .01 level, which indicated that the raters did have discriminating power and their agreement on observations very probably was not due to chance.

The ratings were also compared using the Spearman rank-order correlation formula for the rankings of the subjects on the Counselor Evaluation Rating Scale. Comparisons were made between Raters I and II, Raters I and III, and Raters II and III.

Pre-test data showed that there was a .94 correlation coefficient between Raters I and II, a .90 correlation coefficient between Raters I and III, and a .93 correlation coefficient between Raters II and III. All three correlation coefficient values were significant at the .01 level, indicating a high degree of reliability between the evaluations of the raters.

Post-test data showed that there was a .79 correlation coefficient between Raters I and II, a .76 correlation coefficient between Raters I and III, and a .62 correlation coefficient between Raters II and III after the subjects had counseled nine more sessions. It is not known why the correlations were lower for the post-test data than for the pre-test data.

All of the reported correlation coefficients between the ratings were significant at the .01 level. These results indicated that the raters' agreements were not simply a matter of chance, and that the degree of reliability demonstrated warranted the use of the Counselor Evaluation Rating Scale as an instrument for measuring counseling effectiveness.

Hypothesis I

For testing purposes the states hypotheses of Chapter I were restated in the null form.

Null Hypothesis I was: There will be no significant difference between the experimental and control groups with respect to the number of empathic responses emitted by the end of conditioning trials.

In order to test this hypothesis, the increase in frequency of empathic responses from the baseline rate to the rate at the end of the experiment for the experimental group was compared to that of the control group.

Table I shows the mean number of empathic responses made by the two groups at the beginning and end of the experiment, the gains made by the groups, and the computed chi-square value based upon the differences in gains.

TABLE I

MEAN FREQUENCY OF EMPATHIC RESPONSES, GAIN IN MEAN FREQUENCY, AND CHI-SQUARE VALUE FOR EXPERIMENTAL AND CONTROL GROUPS

Group	Mean Frequency of Empathic Responses (Baseline)	Mean Frequency of Empathic Responses (Final)	Gain in Mean Frequency of Empathic Responses	χ^2
Experimental	98.00	187.38	89.38	27.72*
Control	100.00	131.50	31.50	

*Significant at the .01 level

Comparison of the chi-square value in Table I with tabled values for significance at the .05 level indicates that the gain in the frequency of empathic responses made by the experimental group is significantly greater than the gain made by the control group.

The average baseline and final response rates for empathic responses for both groups are presented in Figure 1.

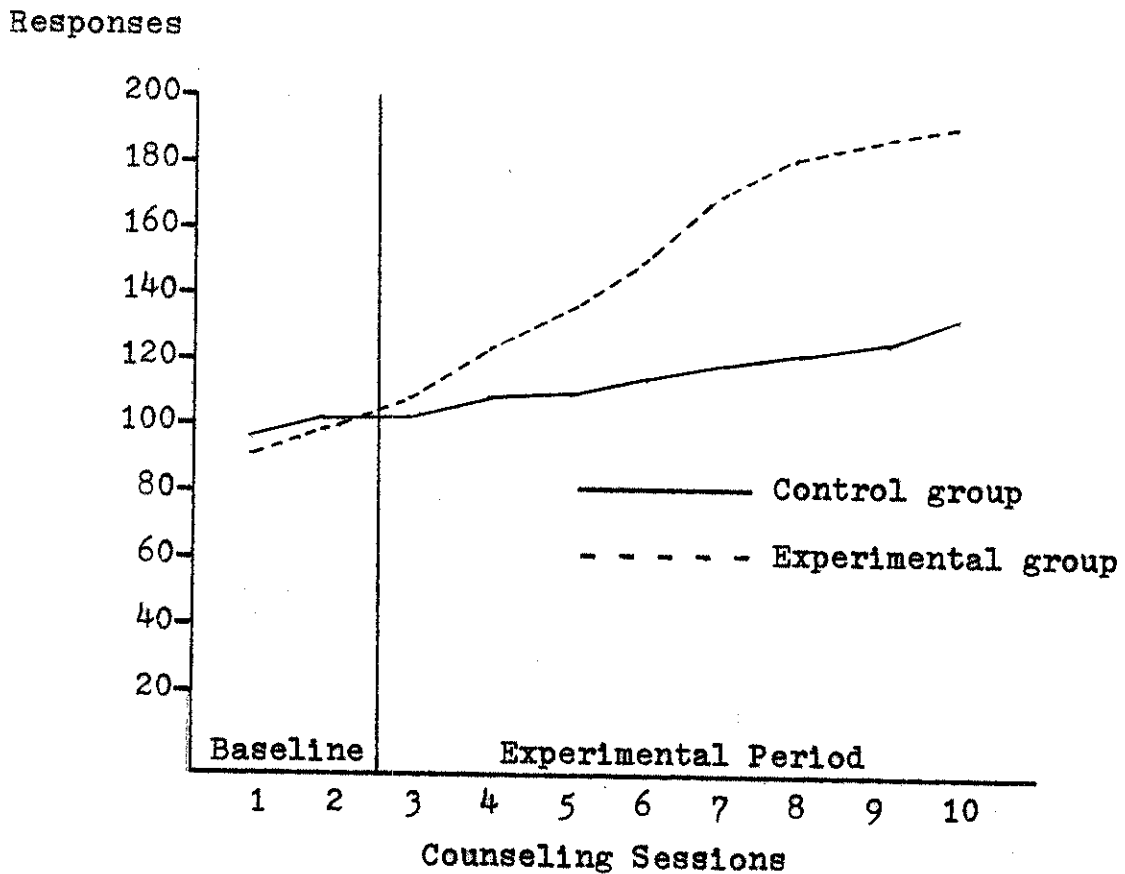


Fig. 1--Mean empathic response rates for both groups during baseline and subsequent periods.

Inspection of Figure 1 shows that both groups made increases in the frequency of empathic responses from the baseline period to the end of the experimental period, but

the increase was greater for the experimental group than for the control group. The response rate for the experimental group appeared to level off from conditioning sessions eight to ten, whereas the control group continued to increase somewhat during these three periods.

On the basis of the data, Null Hypothesis I was rejected. There was a significant difference between the number of empathic responses emitted by the experimental group and the number of empathic responses emitted by the control group at the end of the study. That is, the experimental group had made significantly more empathic responses than the control group at the conclusion of the experiment.

Hypothesis II

Null Hypothesis II was: There will be no significant difference between the experimental and control groups with respect to the number of concrete responses emitted by the end of conditioning trials.

In order to test this hypothesis, the increase in frequency of concrete responses from the baseline rate to the rate at the end of the experiment for the experimental group was compared to that of the control group.

Table II shows the mean number of concrete responses made by the two groups at the beginning and end of the experiment, the gains made by the groups, and the computed chi-square value based upon the differences in gains.

TABLE II

MEAN FREQUENCY OF CONCRETE RESPONSES, GAIN IN MEAN FREQUENCY,
AND CHI-SQUARE VALUE FOR EXPERIMENTAL AND CONTROL GROUPS

Group	Mean Frequency of Concrete Responses (Baseline)	Mean Frequency of Concrete Responses (Final)	Gain in Mean Frequency of Concrete Responses	χ^2
Experimental	70.50	122.25	51.75	5.95*
Control	67.50	97.25	29.75	

*Significant at the .02 level

Comparison of the chi-square value in Table II with tabled values for significance at the .05 level indicates that the gain in the frequency of concrete responses made by the experimental group was significantly greater than the gain made by the control group.

The average baseline and final response rates for concrete responses for both groups are presented in Figure 2.

Inspection of Figure 2 shows that both groups made increases in the frequency of concrete responses from the baseline period to the end of the experimental period, but the increase was greater for the experimental group than for the control group. The response rate for the experimental group decreased from conditioning sessions eight to ten, whereas the control group continued to increase somewhat during these three periods.

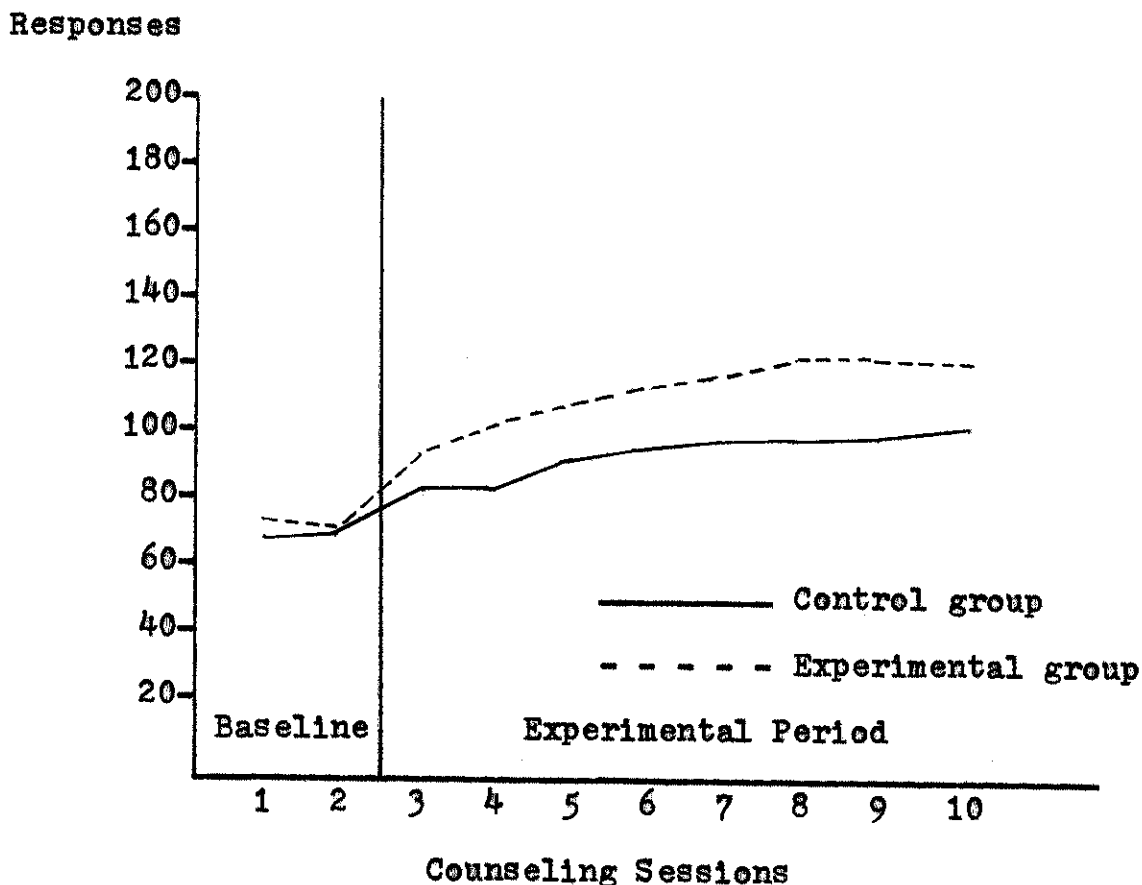


Fig. 2--Mean concrete response rates for both groups during baseline and subsequent periods

On the basis of the data, Null Hypothesis II was rejected. There was a significant difference between the number of concrete responses emitted by the experimental group and the number of concrete responses emitted by the control group at the end of the study. That is, the experimental group had made significantly more concrete responses than the control group at the conclusion of the experiment.

Hypothesis III

Null Hypothesis III was: There will be no significant difference between the experimental and control groups with

respect to the degree of change in counseling effectiveness as measured by the Counselor Evaluation Rating Scale.

The mean scores and standard deviations obtained from the Counselor Evaluation Rating Scale are presented in Table III.

TABLE III
MEANS AND STANDARD DEVIATIONS ON THE
COUNSELOR EVALUATION RATING SCALE

Group	Means			Standard Deviations	
	Pre-test	Post-test	A.M.*	Pre-test	Post-test
Experimental	31.89	40.05	39.69	6.0271	4.0717
Control	31.03	35.18	35.54	6.2655	7.7830

*Adjusted Means (post-test)

This table shows that the groups started off with close scores on the pre-test. Although both groups showed an increase from the pre-test to the post-test, the experimental group had an increase of over eight points, while the control group had an increase of over four points.

The standard deviations for the two groups were very similar for the pre-test, but they differed considerably on the post-test. During the study the scores for the experimental group became more homogeneous than for the control group, as evidenced by the relatively low standard deviation of 4.0717. The control group became more

heterogeneous, as evidenced by pre-test and post-test standard deviations of 6.2655 and 7.7830.

The analysis of covariance data for the two groups on the Counselor Evaluation Rating Scale is presented in Table IV.

TABLE IV

ANALYSIS OF COVARIANCE DATA FOR THE COMPARISON OF RATINGS
ON THE COUNSELOR EVALUATION RATING SCALE

Source of Variance	Sum of Squares	df	Mean Square	F
Between	85.80	1	85.80	6.55*
Within	222.59	17	13.09	
Total	308.39	18

*Significant at the .02 level

The F-value of 6.55 shown in Table IV is significant at the .02 level. This means that the adjusted mean of the post-test scores of the experimental group was significantly higher than that of the control group.

On the basis of the data, Null Hypothesis III was rejected. There was a significantly greater score increase, from pre-test to post-test, by the experimental group than by the control group on the Counselor Evaluation Rating Scale.

Hypothesis IV

Null Hypothesis IV was: There will be no significant difference between the experimental and control groups with respect to the degree of change toward internal control as measured by the I-E Scale.

The mean scores and standard deviations obtained from the I-E Scale are presented in Table V.

TABLE V
MEANS AND STANDARD DEVIATIONS
ON THE I-E SCALE

Group	Means			Standard Deviations	
	Pre-test	Post-test	A.M.*	Pre-test	Post-test
Experimental	14.6	16.2	16.17	3.5024	2.4856
Control	14.5	13.8	13.83	4.5031	3.3267

*Adjusted Means (post-test)

This table shows that the two groups had very similar mean scores on the pre-test. The experimental group had almost a two-point increase on the post-test, whereas the control group had almost a one-point decrease on the post-test.

The standard deviations for the groups indicated that the control group scores varied somewhat more than those of the experimental group, both on the pre-test and post-test. Both groups became more homogeneous during the experimental

period, as evidenced by pre-test to post-test standard deviation changes from 3.5024 to 2.4856 for the experimental group and 4.5031 to 3.3267 for the control group.

The analysis of covariance data for the two groups on the I-E Scale is presented in Table VI.

TABLE VI
ANALYSIS OF COVARIANCE DATA FOR THE COMPARISON
OF SCORES ON THE I-E SCALE

Source of Variance	Sum of Squares	df	Mean Square	F
Between	27.44	1	27.44	7.89*
Within	59.06	17	3.47	
Total	86.50	18

*Significant at the .01 level

The F-value of 7.89 shown in Table VI is significant at the .01 level. This means that the adjusted mean of the post-test scores of the experimental group was significantly higher than that of the control group.

On the basis of the data, Null Hypothesis IV was rejected. At the end of the study the number of internally-oriented items marked by the experimental group on the I-E Scale was significantly greater than the number marked by the control group.

Hypothesis V

Null Hypothesis V was: There will be no significant difference between the experimental and control groups with respect to the degree of change toward internal control as measured by the Personal Orientation Inventory.

The mean scores and standard deviations obtained from the Personal Orientation Inventory are presented in Table VII.

TABLE VII
MEANS AND STANDARD DEVIATIONS ON THE
PERSONAL ORIENTATION INVENTORY
(INNER SUPPORT)

Group	Means			Standard Deviations	
	Pre-test	Post-test	A.M.*	Pre-test	Post-test
Experimental	87.5	97.2	99.50	13.1846	12.3092
Control	93.3	95.5	93.20	8.8577	8.9100

*Adjusted Means (post-test)

This table shows that the experimental group scored almost six points less than the control group on the pre-test of the Personal Orientation Inventory. Both groups showed an increase from the pre-test to the post-test, but the experimental group gained almost ten points, whereas the control group gained a little over two points.

The standard deviations for the groups indicated that score variability, both on pre-test and post-test, was

considerably less for the control group than for the experimental group on the Personal Orientation Inventory. The experimental group became slightly more homogeneous, as evidenced by pre-test and post-test standard deviation change from 13.1846 to 12.3092.

The analysis of covariance data for the two groups on the Personal Orientation Inventory is presented in Table VIII.

TABLE VIII

ANALYSIS OF COVARIANCE DATA FOR THE COMPARISON OF SCORES
ON THE PERSONAL ORIENTATION INVENTORY

Source of Variance	Sum of Squares	df	Mean Square	F
Between	184.26	1	184.26	4.78*
Within	655.12	17	38.53	
Total	839.38	18

*Significant at the .04 level

The F-value of 4.78 shown in Table VIII is significant at the .04 level. This means that the adjusted mean of the post-test scores of the experimental group was significantly higher than that of the control group.

On the basis of the data, Null Hypothesis V was rejected. There was a significant difference between the adjusted post-test means of the experimental and control

groups. That is, the number of internally-oriented items marked by the experimental group was significantly greater than the number marked by the control group.

In addition to the instruments already discussed, a short questionnaire was given to the ten practicum students making up the experimental group to assess their reactions to the experience of being assisted by radio communication (see Appendix A).

All ten subjects indicated that they felt that the monitoring equipment worked effectively as far as audio reception was concerned. That is, they could hear the words spoken to them without difficulty. Four of the ten subjects indicated that the monitoring equipment was "fairly" effective in operation, and the remaining six subjects indicated that the monitoring equipment was very effective.

All ten subjects indicated that they felt the input they received (immediate positive verbal reinforcement) was useful to them in their counseling sessions. Four of the ten subjects indicated that the input they received was very useful, and the remaining six subjects indicated that the input they received was "fairly" useful to them in their counseling sessions.

None of the ten subjects felt that the monitoring equipment hindered their counseling effectiveness or interfered with the one-to-one relationship the subjects

had with their clients. All ten subjects indicated that they would like to undergo this type of supervision again if possible.

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CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study involved the use of radio apparatus in connection with the supervision provided in a counseling practicum. The radio equipment was used to provide one-way communication with the practicum students.

The Problem

The problem was to determine whether using radio communication would facilitate learning in counseling practicums.

The specific purposes investigated were

1. To determine whether the use of radio communication is effective in providing positive reinforcement to the counselor during counseling sessions.
2. To determine whether the use of radio communication is effective in enhancing the learning of facilitative responses by counselors in practicum situations.
3. To determine the effect of positive reinforcement on the student counselors' performance.
4. To provide information that may be beneficial with regard to future research involving the use of radio communication in counselor training.

The Hypotheses

The following hypotheses were tested:

I. The students who have received immediate positive verbal reinforcement via radio will emit a significantly larger number of empathic responses than the control group by the end of conditioning trials.

II. The students who have received immediate positive verbal reinforcement via radio will emit a significantly larger number of concrete responses than the control group by the end of conditioning trials.

III. At the conclusion of the semester, the students who have received immediate positive verbal reinforcement will attain significantly higher (desirable) mean scores than the control group on the Counselor Evaluation Rating Scale.

IV. At the conclusion of the semester, the students who have received immediate positive verbal reinforcement via radio will show greater movement toward internal control on the basis of their mean scores than will the control group on the I-E Scale.

V. At the conclusion of the semester, the students who have received immediate positive verbal reinforcement via radio will show greater movement toward internal control on the basis of their mean scores than will the control group on the Inner Support scale of the Personal Orientation Inventory.

The Method

The subjects, twenty students, were from two practicum classes of the master's level program in counseling at North Texas State University for the fall semester, 1973. All subjects were offered the opportunity to receive supervision by radio, and all twenty volunteered. Ten subjects were selected at random to make up the experimental group, and the remaining ten subjects made up the control group.

All subjects were administered the I-E Scale and the Personal Orientation Inventory after their third counseling session, and again after their thirteenth counseling session.

Three raters, doctoral interns in the counseling program at North Texas State University, were trained in distinguishing empathic and concrete responses acceptable for reinforcement. Two of the raters assisted in providing immediate positive verbal reinforcement to the subjects. The raters evaluated pre-test and post-test videotape segments of all subjects and rated each subject on the Counselor Evaluation Rating Scale, giving each subject two scores on this instrument. The raters also evaluated audiotape recordings made by the control group to determine their empathic response rates and their concrete response rates.

Two different FM wireless microphones and two different AM-FM pocket transistor radios were used to provide immediate positive verbal reinforcement to the experimental group.

The baseline period for determining empathic response rates and concrete response rates consisted of two counseling sessions, the fourth and fifth. The next eight sessions constituted the conditioning period for the experimental group. During these sessions, the subjects in the experimental group wore a radio concealed on their persons during their counseling sessions. When a subject emitted an acceptable empathic or concrete response, the person reinforcing said "good" into the microphone and the comment was heard by the subject through his radio earphone. The person providing reinforcement tallied the number of reinforcements he gave and classified them as being either empathic responses or concrete responses.

The reliability of the raters on the Counselor Evaluation Rating Scale was determined by using a non-parametric procedure developed by Lawlis and Lu, and the Spearman rank-order correlation formula. Differences between the experimental and control groups with respect to mean frequency of empathic responses and concrete responses were tested by the chi-square test of independence. Adjusted post-test differences between the two groups on the scores obtained on the Counselor Evaluation Rating Scale, the I-E Scale, and the Personal Orientation Inventory were analyzed by using the analysis of covariance. A significance level of .05 was required for the rejection of the null hypothesis.

Results

The hypothesis which predicted that students receiving immediate positive verbal reinforcement via radio would emit more empathic responses than the control group by the end of conditioning was accepted.

The hypothesis which predicted that students receiving immediate positive verbal reinforcement via radio would emit more concrete responses than the control group by the end of conditioning was accepted.

The hypothesis which predicted that students receiving immediate positive verbal reinforcement via radio would experience a greater rating on the Counselor Evaluation Rating Scale than the control group by the end of conditioning was accepted.

The hypothesis which predicted that students receiving immediate positive verbal reinforcement via radio would experience more positive change as measured by the I-E Scale than the control group by the end of conditioning was accepted.

The hypothesis which predicted that students receiving immediate positive verbal reinforcement via radio would experience more positive change as measured by the Personal Orientation Inventory than the control group by the end of conditioning was accepted.

The results obtained in the present study supported results found by Cohen, Kalish, Thurston, and Cohen (2),

Cushing (5), Gersten (6), and Greenspoon (7). By using a verbal reinforcer ("good"), the empathic response rates and concrete response rates of the subjects in the experimental group were shaped and increased to a greater degree than the response rates of the control group.

The present study found that it took the students in the experimental group one reinforcement period to adapt to listening to the monitoring system, which is consistent with what Brooks and Hannah (1) and Korner and Brown (9) found with the monitoring systems they had used.

Increases in empathic response rates and concrete response rates for the experimental group support the notion that a counselor trainee's behavior can be modified through reinforcement as reported by Brooks and Hannah (1), Cohn (3), Mitchell (12), Reddy (15), Silverman and Kimmel (16), and Stumphauzer (17).

An interesting result obtained from the questionnaire developed to assess the effectiveness of radio communication was that three of the ten subjects in the experimental group stated that they wanted more said to them than just "good" by the supervisor. Brooks and Hannah (1), Cohn (3), Herold, Ramirez, and Newkirk (8), Korner and Brown (9), Mitchell (12), Pierce (14), Reddy (15), Silverman and Kimmel (16), Stumphauzer (17), and Ward (18, 19) all gave instructions to the students they worked with and spoke more than just one word during communication.

The questionnaire given to the students in the experimental group indicated that the students were aware that any reinforcement they received was dependent upon their skill, and that they had to emit an acceptable response to be reinforced, which is what Phares (13) found in working with internally-oriented individuals.

The increase in empathic responses and concrete responses by the experimental group indicated that the students were taking more chances in trying to obtain reinforcement. This contradicted the results found by Liverant and Scodel (11) where the internally-oriented individuals assured themselves of success by minimal risk taking. In addition, the students in the experimental group were more alert and perceptive toward opportunities for reinforcement. By increasing their response rates, the experimental group went one step farther, in that they created opportunities for reinforcement by occasionally taking a chance on a response they otherwise might not have made. Lefcourt (10) found that internally-oriented individuals are more alert toward opportunities for reinforcement. These internally-oriented individuals expect to succeed, and when they do, their expectancy for success is reinforced. This is a possible explanation for the increase in the response rate by the experimental group.

Another important finding was that six out of ten subjects in the experimental group reported that receiving

the immediate positive verbal reinforcement increased their confidence in their counseling ability.

The last main finding was that one of the monitoring systems was found to work better than the other did. The system composed of the Dynatronics FM wireless microphone and Sony AM-FM transistor radio (Model TFM-3900W) worked better than the Realistic Apollo FM wireless microphone (Model FM-90) and Midland AM-FM transistor radio (Model 10-418). The Dynatronics--Sony monitoring system worked more efficiently for two reasons. The Dynatronics microphone had a volume control which enabled the user to adjust the volume of his voice over the microphone so the listener did not have to turn the volume up on his radio. This helped to minimize the sound distortion level the listener had to tolerate. The second reason why this system worked better was that the Sony radio was very sensitive, being able to receive and maintain the station signal. Both monitoring systems worked well, but the Dynatronics--Sony system was better in sound quality.

Conclusions

As stated earlier in Chapter I, there was a possibility of the Hawthorne effect influencing the results found in this study. The experimental group may have performed better than they normally would have because they knew they were involved in a study. There also exists a possibility that

the experimental group might have been hindered by having to wear the monitoring equipment or by getting radio feedback.

The results of this study suggest the following conclusions:

1. Increasing facilitative verbal behavior on the part of the counselor, as defined by an increase in empathic responses and concrete responses, is possible by using immediate positive verbal reinforcement through a radio communication system.

2. Student counselors who are subjected to immediate positive verbal reinforcement by using a radio communication system are seen as being more effective counselors, by unbiased raters, using the Counselor Evaluation Rating Scale as an instrument to measure counseling effectiveness.

3. Student counselors who are subjected to immediate positive verbal reinforcement by using a radio communication system become more internally-directed as measured by the I-E Scale and the Personal Orientation Inventory.

4. The slight inconvenience involved when radio equipment is used is justified by the gains derived from its use.

It would appear from these conclusions that assisting student counselors with an immediate reinforcement

monitoring system might help produce a more effective, facilitative, and confident counselor.

The student counselors in the experimental group were seen as being more effective by raters and more internally-oriented than the control subjects on the basis of the I-E Scale and the Personal Orientation Inventory. Combs, Avila, and Purkey (4) wrote that to be an effective counselor, one must feel fulfilled himself. A deprived self cannot afford to give itself away. This implies that a counselor must be self-actualized to the degree that he can give of himself to his clients. The I-E Scale and Personal Orientation Inventory have suggested that the counselors receiving the immediate positive verbal reinforcement had reached a degree of self-actualization that was higher than that of the control group, and the Counselor Evaluation Rating Scale suggested that these counselors were more effective than those in the control group.

Since the practicum course is the only counseling experience most of the students have until they become employed, it seems important that they be able to make the most of this learning situation. Many students get anxious over the fact that they are about to see a client. A supervisor with a monitoring system could help erase some of these fears. Some of the students reported that they felt more confident in themselves and their ability as a

result of exposure to a monitoring system. If a counselor feels more confident in himself, he should become more effective. The results of this study support this idea. The counselors became more effective, more responsible for their actions, more internally-oriented, and felt more confident about their ability. This may have helped these counselors progress further as counselors than the control group.

Recommendations

On the basis of the findings of this investigation, it is recommended that

1. Further research into this area might attempt to use more objective instruments in determining the effect of radio supervision. Since many student counselors are anxious about having to put their knowledge to practice, this anxiety could be monitored by a galvanic skin response physiograph and a cardiometer unit.

2. Further research into this area might utilize a monitoring system with a trained client in order to give the students a more varied experience. The supervisor could tell the client what to say to the counselor to determine how the counselor reacts to "different" types of clients and "different" presenting problems. This type of situation would provide good preparation for the counselor should he meet any clients similar to the trained client.

3. Further research into this area might be extended to use in a play therapy setting with children, both in training the play therapist and as play media. For instance, a student therapist can be informed by a more experienced therapist about what a child is doing when the student therapist has his back turned. The radio can be used as a play medium itself and would be useful with shy or uncooperative children. The therapist could leave the child at a given time and observe what happens in the play room when the radio begins "speaking" to the child. (This was actually done in the summer of 1973 by the experimenter with the result being that the child was more willing to talk to his therapist because of the novelty of this method.)

4. Further research into this area might be used in instructing student counselors in the field of test administration and interpretation. Testing appears to be a weak area of many counseling programs and definitely lends itself to a radio-communication approach.

5. Further research into this area might reveal more effective equipment than that used in the present study.

6. Further research into this area might control the Hawthorne effect from becoming even a possible factor by using a "yoked control" design. Fewer experimental sessions may have to be used in order to extinguish any maladaptive behavior learned by the subjects.

7. The use of radio equipment to provide reinforcement for counseling trainees should be incorporated in further counseling practicums.

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APPENDIX A

THE CARKHUFF SCALE FOR EMPATHY

The communication involves the helper communicating back to the helpee that he knows and understands both the feeling and meaning of the helpee's expression and experience.

LEVEL 1 - The verbal and behavioral expressions of the helper do not attend to and detract significantly from the verbal and behavioral expressions of feeling of the helpee.

The helper communicates no awareness of even the expressed surface feelings of the helpee.

In summary the helper does everything but express that he is listening, understanding, and is being sensitive to the helpee's feelings.

LEVEL 2 - The helper primarily responds to the content and problem area of the helpee while neglecting the helpee's feelings.

The helper may communicate some awareness of the helpee's surface feeling but does so in a manner that detracts affect and meaning from the helpee's expression.

In summary the helper tends to respond to the less relevant portions of the helpee's expression.

LEVEL 3 - The helper responds to the expressed feelings of the helpee so that his expression is essentially interchangable with those of the helpee expressing the same feeling and meaning.

The helper responds in a manner that reflects an understanding of the surface feelings expressed by the helpee.

In summary the helper is responding so as to neither level of facilitative functioning. The helper is responding so as to neither subtract from or add to the helpee's expression. This is the minimal level of facilitative functioning. The helper is responding to what the helpee is saying.

LEVEL 4 - The helper's response adds noticeably to the expressions of the helpee in such a way as to express an understanding of the helpee's feelings at a deeper level than the helpee was able to express himself.

The helper's communication expresses a deeper level meaning and understanding and thus enables the helpee to express deeper feelings and meanings.

In summary the helper's expression reflects a deeper level understanding of the helpee. The helper is responding more to what the helpee is not saying.

LEVEL 5 - The helper's responses add significantly to the feeling of the helpee's expression.

The helper responds with accuracy to all the helpee's surface and deep feelings. He is together and tuned in completely and fully.

In summary the helper is communicating full awareness of the helpee as a person.

THE CARKHUFF SCALE FOR CONCRETENESS

In communicating concreteness, the helper guides and directs discussion into personally relevant material in specific and concrete terms.

LEVEL 1 - The helper allows all discussion with the helpee to deal only with vague generalities.

Both parties discuss everything on strictly an abstract and highly intellectual level. The helper makes no attempt to lead discussion into personally relevant specific situations and feelings.

LEVEL 2 - The helper may allow discussion of personally relevant material but deals with it on a vague and abstract level.

The helper may discuss "real" feelings but does so in an abstract and intellectualized level.

LEVEL 3 - The helper at times enables the helpee to discuss personally relevant material in specific terms.

The helper, while guiding the discussion in specific and concrete terms, may not develop the area of inquiry fully.

This is the minimal facilitative level.

LEVEL 4 - The helper is frequently helpful in enabling the helpee to fully develop in specific and concrete terms almost all instances of concern.

The helper frequently guides the discussion to specific feelings and experiences of personally relevant material.

LEVEL 5 - The helper is always helpful in guiding the discussion to specific feelings, situations, and events so that the helpee may explore these areas in a concrete manner.

COUNSELOR EVALUATION RATING SCALE

Below are listed some statements which are related to evaluation in supervising a counseling experience. Please consider each statement with reference to your knowledge of the counselor rated.

Mark each statement in the left hand blank according to how strongly you agree or disagree. Do not mark in parentheses. Please mark every statement. Write in +3, +2, +1, -1, -2, or -3 to represent the following:

+3 = I strongly agree	-1 = I slightly disagree
+2 = I agree	-2 = I disagree
+1 = I slightly agree	-3 = I strongly disagree

- _____ (1) Demonstrates an interest in client's problems.
- _____ (2) Tends to approach clients in a mechanical, perfunctory manner.
- _____ 3. Lacks sensitivity to dynamics of self in supervisory relationship.
- _____ 4. Seeks and considers professional opinion of supervisors and other counselors when the need arises.
- _____ (5) Tends to talk more than client during counseling.
- _____ 6. Is sensitive to dynamics of self during counseling relationships.
- _____ 7. Cannot accept constructive criticism.
- _____ (8) Is genuinely relaxed and comfortable in the counseling session.
- _____ (9) Is aware of both content and feeling in counseling sessions.
- _____ 10. Keeps appointments on time and completes supervisory assignments.
- _____ 11. Can deal with content and feeling in counseling sessions.

- _____ (12.) Tends to be rigid in counseling behavior.
- _____ (13.) Lectures and moralizes in counseling.
- _____ 14. Can critique counseling tapes and gain insights with minimum help from supervisor.
- _____ 15. Is genuinely relaxed and comfortable in the supervisory session.
- _____ 16. Works well with other professional personnel (e.g., teachers, counselors, etc.).
- _____ (17.) Can be spontaneous in counseling, yet behavior is relevant.
- _____ (18.) Lacks self-confidence in establishing counseling relationships.
- _____ 19. Can explain what is involved in counseling and discuss intelligently its objectives.
- _____ 20. Is open to self-examination during supervision.
- _____ (21.) Can express thoughts and feelings clearly in counseling.
- _____ (22.) Verbal behavior in counseling is appropriately flexible and varied, according to the situation.
- _____ (23.) Lacks basic knowledge of fundamental counseling principles and methodology.
- _____ 24. Participates actively and willingly in supervisory sessions.
- _____ 25. Is indifferent to personal development and professional growth.
- _____ (26.) Applies a consistent rationale of human behavior to counseling.
- _____ 27. Can be recommended for a counseling position without reservation.

Circled items were used in the present study.

THE I-E SCALE

Instructions:

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you are concerned. Also, try to respond to each item independently when making your choice; do not be influenced by your previous choice.

1. a. Children get into trouble because their parents punish them too much.
b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in peoples' lives are partly due to bad luck.
b. Peoples' misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run, people get the respect they deserve in this world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.
b. Most students don't realize the extent to which the grades are influenced by accidental happenings.

6.
 - a. Without the right breaks one cannot be an effective leader.
 - b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7.
 - a. No matter how hard you try, some people just don't like you.
 - b. People who can't get others to like them don't understand how to get along with others.
8.
 - a. Heredity plays the major role in determining one's personality.
 - b. It is one's experiences in life which determine what they're like.
9.
 - a. I have often found that what is going to happen will happen.
 - b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10.
 - a. In the case of the well prepared student there is rarely, if ever, such a thing as an unfair test.
 - b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11.
 - a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
 - b. Getting a good job depends mainly on being in the right place at the right time.
12.
 - a. The average citizen can have an influence in government decisions.
 - b. This world is run by the few people in power, and there is not much the little guy can do about it.
13.
 - a. When I make plans, I am almost certain that I can make them work.
 - b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyway.
14.
 - a. There are certain people who are just no good.
 - b. There is some good in everybody.
15.
 - a. In my case, getting what I want has little or nothing to do with luck.
 - b. Many times we might just as well decide what to do by flipping a coin.

16.
 - a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
 - b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17.
 - a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand nor control.
 - b. By taking an active part in political and social affairs, the people can control world events.
18.
 - a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
 - b. There really is no such thing as luck.
19.
 - a. One should always be willing to admit mistakes.
 - b. It is usually best to cover up one's mistakes.
20.
 - a. It is hard to know whether or not a person really likes you.
 - b. How many friends you have depends upon how nice a person you are.
21.
 - a. In the long run the bad things that happen to us are balanced by the good ones.
 - b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22.
 - a. With enough effort we can wipe out political corruption.
 - b. It is difficult for people to have much control over the things politicians do in office.
23.
 - a. Sometimes I can't understand how teachers arrive at the grades they give.
 - b. There is a direct connection between how hard I study and the grades I get.
24.
 - a. A good leader expects people to decide for themselves what they should do.
 - b. A good leader makes it clear to everybody what their jobs are.
25.
 - a. Many times I feel that I have little influence over the things that happen to me.
 - b. It is impossible for me to believe that chance or luck play an important role in my life.

26.
 - a. People are lonely because they don't try to be friendly.
 - b. There's not much use in trying too hard to please people, if they like you, they like you.
27.
 - a. There is too much emphasis on athletics in high school.
 - b. Team sports are an excellent way to build character.
28.
 - a. What happens to me is my own doing.
 - b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29.
 - a. Most of the time I can't understand why politicians behave the way they do.
 - b. In the long run the people are responsible for bad government on a national as well as a local level.

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ASSESSMENT OF SUPERVISORY TECHNIQUE

1. Indicate the effectiveness of the monitoring equipment (radio and microphone).
 - a. Vary Effective
 - b. Fairly Effective
 - c. Fairly Ineffective
 - d. No Effect
2. Indicate the effectiveness of the input you received over the radio.
 - a. Very Useful
 - b. Fairly Useful
 - c. Fairly Useless
 - d. Completely Useless
3. Was this manner of supervision beneficial to you?
YES NO
4. If you answered "YES" to the above, how was it beneficial? If you answered "NO" to the above, how was it detrimental?
5. Did this monitoring equipment hinder your counseling effectiveness in any way?
YES NO

If it did hinder you, what was most bothersome about it?
6. In your estimation, did you feel that this equipment and procedure had a negative effect on your client? If your answer is "YES", how was this indicated by client?
7. Would you want to undergo this type of supervision again if possible?
YES NO
8. Please indicate any suggestions you might have in regard to improving this method of supervision for the future.

APPENDIX B

TABLE IX
 RATER ITEM AVERAGES ON THE
COUNSELOR EVALUATION
RATING SCALE

Item	Rater Pre-test			Rater Post-test		
	1	2	3	1	2	3
1	3.25	3.05	3.20	4.10	4.15	4.00
2	2.40	2.80	3.00	2.75	3.00	3.05
3	2.65	2.50	2.60	2.95	2.75	2.95
4	2.00	2.00	2.00	3.05	2.80	2.95
5	2.00	2.25	2.20	3.05	3.00	3.20
6	2.60	2.65	2.50	2.90	2.80	2.90
7	2.95	2.95	3.25	3.15	3.10	3.05
8	2.60	2.70	2.55	2.90	2.70	2.85
9	2.00	2.20	1.95	2.85	3.05	3.00
10	2.20	2.25	2.30	2.70	2.80	3.05
11	2.20	2.25	2.00	2.45	2.50	2.75
12	2.20	2.45	2.25	2.60	2.55	2.70
13	2.00	2.25	2.30	2.50	2.50	2.60

TABLE X
 BASELINE AND FINAL EMPATHIC RESPONSE RATES

Subject	Baseline		Final							
	1	2	3	4	5	6	7	8	9	10
1	9	11	11	14	18	22	25	25	21	19
2	10	12	12	16	16	19	20	22	23	20
3	8	10	11	13	17	20	26	21	24	22
4	9	10	10	13	15	18	25	24	22	18
5	10	11	12	15	18	21	24	24	21	20
6	9	10	10	13	16	20	26	28	23	24
7	11	12	12	16	20	21	19	24	25	23
8	12	13	13	20	25	28	25	25	22	21
9	9	10	11	15	19	27	38	33	27	26
10	5	5	3	4	3	6	9	10	7	5
11	12	13	10	12	11	12	14	13	15	17
12	10	12	11	9	10	10	13	12	13	14
13	8	11	10	10	11	10	13	12	14	17
14	10	12	12	11	12	13	15	14	15	19
15	11	12	9	13	9	10	12	13	12	13
16	8	7	6	8	6	7	8	9	10	13
17	7	6	5	6	5	10	9	7	9	14
18	10	12	12	15	17	19	22	20	21	24
19	11	11	13	17	19	21	22	22	26	30
20	8	9	10	11	12	13	14	13	14	18

Subjects 1-10 - Experimental group
 Subjects 11-20 - Control group

TABLE XI
 BASELINE AND FINAL CONCRETE RESPONSE RATES

Subject	Baseline		Final							
	1	2	3	4	5	6	7	8	9	10
1	6	4	10	12	14	13	17	16	13	12
2	8	5	9	11	14	15	13	15	14	15
3	5	7	10	10	12	12	14	18	12	13
4	7	10	12	13	13	13	11	16	10	9
5	7	8	10	13	15	12	15	12	13	12
6	5	7	8	13	12	13	12	20	16	11
7	8	7	11	12	15	12	10	12	11	8
8	9	8	10	10	10	13	15	18	12	13
9	9	8	7	11	14	14	24	21	17	14
10	8	5	4	4	3	7	10	6	4	8
11	8	7	8	10	11	10	9	10	12	14
12	5	5	7	8	10	12	10	8	10	11
13	7	4	8	9	7	9	11	10	11	12
14	7	7	10	11	12	7	9	8	9	10
15	6	6	11	8	10	11	11	9	8	7
16	7	8	9	9	7	8	11	12	10	13
17	4	7	3	4	4	7	6	4	10	10
18	6	8	9	10	10	12	13	14	13	15
19	7	10	7	10	12	14	10	12	12	11
20	8	8	10	12	11	9	8	9	8	12

Subjects 1-10 - Experimental group
 Subjects 11-20 - Control group

APPENDIX C

2522 Louise, Apartment 32
Denton, Texas 76201
July 9, 1973

Dr. Benjamin Cohn
Director of Professional and Pupil Personnel
Board of Co-operative Educational Service
4200 Triangle Center
Yorktown Heights, New York 10598

Dear Dr. Cohn:

I am a doctoral candidate in counseling at North Texas State University, and as all doctoral candidates in my position, I am trying to come up with a satisfactory dissertation problem and proposal.

While here at North Texas I have been known for interests and ideas ranging from the unusual to the bizarre, and an easy prey for gadgetry. I came up with an idea for supervising master's level counseling practicum students involving radio communication, only to find out that it had been done in 1961 or earlier. As I searched through some of the literature for previous research, I decided to first ask some of my committee members for help, and Dr. Garry Landreth gave me your name and address and advised me to contact you.

This summer session I am involved in helping supervise practicum students and was given permission to try out my idea under the supervision of Dr. George Robb of the North Texas staff. The equipment I used was an FM wireless microphone, a small Sony FM-FM transistor radio which when tuned to a particular FM frequency will pick up a transmission from the microphone through an earplug. I would run the earplug down the student's back under his clothing, plug it into the radio, and then place the radio behind his back and into the waistband of his pants, everything out of sight of the student's client. We have 10 practicum rooms each containing a closed-circuit television camera leading to a central monitor where a supervisor can observe and listen in on the student-counselor's session. What I have been doing is giving immediate feedback to the student from the central monitor room through the wireless microphone. I believe that the usual process of feedback which comes only after the session is over is too late to do anything about any possible harm which may have already been done to the client. Using my process, I am differentially

reinforcing a student's responses with a verbal "good" or "bad" and somewhat helping them find out what kind of progress they are making as soon as they make it. I had to keep my comments short so as not to interrupt the counseling process. So far I have wired up six students two times apiece and they have found it beneficial. It gives them more confidence, and keeps them on their toes.

The reason I am writing is because Dr. Landreth mentioned that you also had used a method similar to this and might be able to give me some help which I need in three areas:

1. Equipment - what would make this process easy to set up is if there were a compatible wireless receiver similar to the hearing aid. This would eliminate carrying a radio into a counseling session. I'd be interested in knowing what kind of equipment you used in your process.
2. Literature - I have run into a brick wall on finding articles and research on using radio in supervising students. I did run into one article in Counselor Education and Supervision on electronic aids in supervision, and one by Pierce in the Journal of Counseling Psychology, 1961 on using radio to supervise, but all he gave was a schematic diagram to convert an old hearing aid into an FM receiver. I have done some checking into Psychological Abstracts but do not know whether I'm looking under the right adjectives. Perhaps you have encountered some literature or journals which might be relevant and useful to this topic of which I may be unaware.
3. Effectiveness - Since I am trying to establish a precedent for using the radio process in the practicum for student counselors I will need some measures to determine the effectiveness of the process. I have not found any instruments so far that could do this, and perhaps you have.

I have become dedicated to this process--body, mind, soul, and wallet, and want to see this process used whether I get a dissertation out of it or not. It is my belief that it works regardless of what others may believe and my main goal is to have the counselor education staff employ radio to an obvious advantage, namely producing a better and more effective counselor than what is now being turned out. There is nothing wrong with the product now, but it can be improved.

Any help you can give me on my three problem areas will be greatly appreciated in helping me set up a dissertation and maybe in helping the field of counselor education gain by leaps and bounds. Enclosed is a self addressed envelope for your reply at your earliest convenience.

Thank you very much for your time and consideration.

Sincerely,

Stuart C. Tentoni

2522 Louise, Apartment 32
Denton, Texas 76201
August 7, 1973

Dr. Robert D. Myrick
Associate Professor
Department of Counselor Education
University of Florida
Gainesville, Florida

Dear Dr. Myrick:

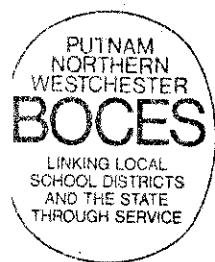
I came across your article on the Counselor Evaluation Rating Scale in the summer, 1971 Counselor Education and Supervision and after reading it over decided the scale made a lot of sense, especially in the supervision of counselor trainees. I am involved in that area now, more specifically in supervising trainees by radio at North Texas State University. My proposed doctoral dissertation will be in the area of counselor training by radio and it was imperative for me to come up with a rating scale to determine counseling effectiveness. My study will involve independent raters who will only rate students on the items I would like to select from the instrument.

I am not clear on all the rules concerning copyright and want to ask your permission to use the scale that you and Dr. Kelly have constructed, and permission to make the necessary modification, which will consist of eliminating some items. For this, you and Dr. Kelly will receive full credit and documentation in my study.

A self-addressed stamped envelope is enclosed for your reply at your earliest convenience. Thank you very much for your time and consideration.

Sincerely,

Stuart C. Tentoni



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July 13, 1973

Sole
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Mr. Stuart C. Tentoni
2523 Louise Apartment #32
Denton, Texas 76201

Dear Stu:

**Participating
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Briarcliff
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Hudson-Lewisboro
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Ossining
Peekskill
Putnam Valley
Somers
Wiltwyck
Yorktown

I was quite surprised to receive your letter describing the wireless microphone approach. If you look in the journal, "Educational Technology", put out this January and February, you will find that I have written an article describing the use of the wireless microphone and the FM receiver, and it also refers to an article which appeared earlier with the same type of procedure that was used for supervising classroom teachers. The two issues, January and February, are totally devoted to the group counseling process. You may find some other guides also. The articles in both journals have been reprinted in a book entitled, "Counseling Effectively in Groups" edited by John Vriend and Wayne W. Dyer, published by Educational Technology Publications, Inc., 140 Sylvan Ave., Englewood Cliffs, New Jersey, 07632. I think the "Educational Technology" magazine is also published by the same people. I think you will find the article interesting and it may be a good jumping-off place for you to do some research.

Board Members
Margaret Schwartz
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As for the equipment, I have not been able to find a small enough FM radio to go into a shirt pocket, which is what I was originally looking for. The FM radios are generally larger than a pack of cigarettes and usually have to go into a coat pocket on the left-hand side of the individual with the ear-plug on the outside. I have not tried to hide the equipment, just keep it out of direct vision. I have three wireless microphones ranging from \$19.00 to about \$90.00, battery operated and very effective.

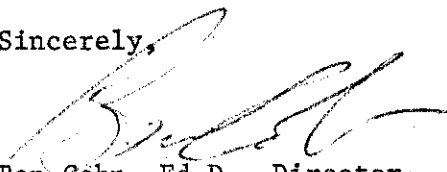
Noble J. Gividen
Superintendent
Raymond A. DeFeo
Asst. Superintendent
Bruce K. Bothwell
Asst. Superintendent
Benjamin Cohn
Director,
Personnel Services

You are right, there is very little material in the literature and I am sure that the reason we have stayed away from this type of activity is that we are afraid of making counseling a mechanically-oriented process. My opinion about counseling becoming mechanically-oriented is that it's garbage, that good counseling should be all spelled out and not mechanical, a true application of the art and skill coming from the experience and professionalism of the individual. I relate it to building a house. There is a great deal that goes into building a house that is mechanical and while the mechanical things that are done is a skill, how well the stuff is put together so that it looks beautiful is an art, and that's what I think the counseling process is like.

As far as evaluating your process, I think what you might do is evaluate the counselees after they have been supervised in the practicum without the wireless mike and let them list the kinds of things they thought happened as a result of having immediate feedback as well as post-feedback. You probably will have to develop your own instrument and it may be nothing more than a survey-type instrument, checking their attitudes after both applications.

If you are in the area of New York, stop by and we can talk. If not, I will be glad to respond to your letters if you think I can continue to help.

Sincerely,



Ben Cohn, Ed.D., Director
Personnel Services

BC/hs

August 13, 1973

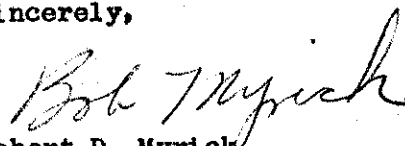
Mr. Stuart C. Tentoni
2522 Louise #22
Denton, Texas 76201

Dear Mr. Tentoni:

Thank you for the letter. You have our permission to use the CERS. Actually, the instrument is public information now because of its publication in CE&S. You are simply extending us the courtesy of requesting our permission, which is appreciated.

Good luck in your work.

Sincerely,



Robert D. Myrick
Professor of Education
Counselor Education

RDM/nc

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