

LANGUAGE LABORATORY USE AND THE DEVELOPMENT OF A SELF-INSTRUCTIONAL TRAINING TAPE PROGRAM IN COUNSELLOR EDUCATION

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Abstract

The primary purpose of this study was to determine the effectiveness of the use of the language laboratory to teach counselling skills. A 52-minute self-instructional training tape program was developed in which a basic element of empathy, reflection of feeling, was modelled. This self-instructional training tape program containing both video and audio components was developed utilizing Bandura's modeling concepts and the principles of simulation, role-practice, and playback. One hundred and four senior education students were randomly assigned to one of five groups. These groups were: (1) Language Laboratory Audio Group, (2) Language Laboratory Video and Audio Group, (3) Audiotape Recorder Group, (4) Lecture-Discussion Group, and (5) No-Treatment Control Group. The results showed firstly that the language laboratory is neither inferior or superior to other instructional media and secondly that the self-instructional tape program is an effective procedure for teaching counselling skills.

Résumé

Le premier but de cette étude était de déterminer l'efficacité d'utiliser le laboratoire des langues pour enseigner les compétences en orientation. Un programme de formation autodidactique de 52 minutes sur ruban a été développé. Il propose comme élément de base un modèle de sympathie et de réflexion sur les sentiments. Ce programme de formation autodidactique sur ruban composé du vidéo et de l'audio a été développé utilisant des concepts du modèle de Bandura et les principes de simulation, de l'exercice du rôle et de la reprise. Cent quatre étudiants avancés en éducation ont été placés au hasard dans cinq groupes. Les groupes étaient: (1) le groupe audio du laboratoire des langues, (2) le groupe audio et vidéo du laboratoire des langues, (3) le groupe enregistrant sur bande magnétoscopique, (4) le groupe conférence-discussion et (5) le groupe contrôle sans traitement. Les résultats indiquent d'abord que le laboratoire des langues n'est ni supérieur ou inférieur aux autres média d'instruction et, en deuxième lieu, que le programme autodidactique sur ruban est un moyen efficace pour l'enseignement des compétences en orientation.

A common approach to teaching counsellor trainees the skills of counselling is to have students listen to "expert" counsellors by means of audiotape recordings or to observe and listen through the media of the videotape or film. It was assumed that exposure to expert counsellor models, via 1-hour video or audiotape recordings, would automatically transfer to the counsellor trainee. Bandura (1969) has indicated that exposing students to lengthy professional counselling tapes is a poor training procedure.

Over the past two decades, there has been extensive use of video tape recordings for the presentation of instructional materials. Landsman and Lane (1963), Walz and Johnson (1963), Kagan and Krathwohl (1967), Ivey, Normington, Miller,

Morrill, and Haase (1968), Brown (1977), Thayer (1977), and Peters, Cormier, and Cormier (1978) have made extensive studies using videotape recordings as the media of research and instruction. Winborn, Hinds, and Stewart (1971) have indicated that counsellor educators have not made widespread use of the programs and instructional materials that are available. They suggest the need not only to utilize audio and video tape recordings as teaching aids but to make further use of computer-assisted instruction, programmed learning, simulation techniques, and other instructional media.

Canter (1969) and Ivey (1968) have indicated that the exposure to video tape counsellor models provides too many nonverbal cues. Consequently,

trainees observing the interaction between the counsellor and client may be presented with too much stimuli and thus miss how the counsellor is responding to the client.

It appears that the dominant position held by many counsellor educators is that their teaching procedures via audio or videotape recordings are the best methods used to train counsellors. Hence, other instructional media available to counsellor educators have largely been ignored. Moreover, systematic research on the comparative effectiveness of audio and video recordings as well as other instructional media is sparse. Not only is there a need for research on the effectiveness of various teaching aids but it also appears that more systematic investigation of specific instructional objectives is indicated. (Bernstein & Lecompte, 1976; Jakubowski-Spector, Dustin, & George, 1971; Krumboltz, 1966; Mazer & Engle, 1968; Miller & Dimattia, 1978; Thoresen, 1969).

This study was concerned with the feasibility of using other instructional media in counsellor education. More specifically, the purpose was to determine the effectiveness of the language laboratory as a possible teaching aid in counsellor training. Another purpose, was to develop a self-instructional training tape program whose objective would be to teach one specific counselling skill and which could be developed into a module.

In the past, one of the primary functions of the language laboratory has been the communication of hearing and speaking skills to students learning a new language. The learning of these skills is based on the principles of modeling and practice. As a teaching aid for counsellor educators, language laboratories have not been fully explored.

To understand better how modeling principles would be effective in the language laboratory and in the development of the self-instructional training tape program, Bandura's theory of modeling and vicarious processes is particularly important for the present investigation. Research evidence indicates that the uses of modeling principles (Bandura, 1968, 1969, 1971; Bandura & Walters, 1963; Cormier & Cormier, 1976; Krumboltz & Thoresen, 1969; Robinson, Froehle, Kurpius, 1979; Stone, 1975), simulation techniques (Delaney, 1969; Miller, 1972; Stone, 1975), role-practice (O'Toole, 1979), and written instructions (Bandura, 1971; Uhlemann, Lea, & Stone, 1976) can be effective processes for the transmission of counselling skills.

Method

Subjects

One hundred and four male and female senior education students in an Introduction to Guidance and a Theories of Learning course at the Univer-

sity of Alberta were subjects. Since these courses were designed as introductory courses to counselling and learning, it was assumed these subjects would lack experience in interviewing or counselling. As part of their course requirements, instructors had informed their students of the essential participation in a language laboratory learning experience.

Development of the Self-Instructional Training Tape Program

A 52-minute self-instructional training tape containing the principles of modeling, simulation, role-practice and playback was developed. So as to accentuate motivation and attentiveness to modeling stimuli, Bandura (1969) has suggested exposure to multiple rather than single models. Therefore, in this particular study, three professional counsellors role-played model counsellors. Students from the Drama Department were coached by the experimenter to role-play clients.

Both professional counsellors and drama students followed typescripts of actual counselling interviews which were derived from audiotape recordings of well-known authorities in the field of counselling. These typescripts were projected onto a screen via overhead projectors. Both model counsellors and drama student clients followed the typescripts and interacted in such a way, to create a realistic counselling situation. Video and audio taping of the self-instructional training tape took place in the television studio of the Education Building under the direction of the experimenter and the cooperation of the Audio-Visual Department.

Figure 1 describes the various phases and content of the self-instructional training tapes program.

Experimental Design

The experimental design called for five groups with subjects randomly assigned to each group. There were 21 subjects in each of four groups and 20 in the other. Each group was subjected to a different method for obtaining and learning the counselling skill of empathy. The five groups were designated as follows: Language Laboratory Audio Group (LLA), Language Laboratory Audio and Video Group (LLV), Audiotape Recorder Group (ATR), Lecture-Discussion Group (LDM), and No-Treatment Control Group (C).

Language laboratory audio group (LLA). In Treatment I, in which only the audio portion of the self-instructional training tape was necessary, the sound portion was dubbed onto a reel to reel tape and used in the language laboratory. Treatment I consisted of written instructions in the form of the "Response to Feeling" Manual

Figure 1
Phases of the self-instructional training tape program.

<i>Phase</i>	<i>Content</i>	<i>Description</i>
Part One	Written Instructions	Subjects read "Reflection of Feeling Manual" (Ivey, 1968)
Part Two	Oral Instructions	Narrator on self-instructional training tape states purpose of experiment, gives overview and instructions to observe or listen to model counsellor
	Professional male counsellor model and male client	Brief uninterrupted counselling session
Part Three	Oral Instructions	Narrator directs subjects to listen to professional female counsellor model and male client
	Professional female counsellor model and male client	Professional female counsellor counsels male client on personal problem Consists of 10 brief single interchanges with 5 second pauses between each exchange
Part Four	Oral Instructions	Narrator directs subjects to assume role of counsellor and to make reflection of feeling or empathic responses to client problem statements, and to compare their responses with those of the professional counsellor
	Professional male counsellor model and male client	Professional counsellor counsels client on stuttering problem Consists of 15 brief interchanges between client problem statement and professional counsellor with 20-second pauses between each client statement and counsellor responses Subjects respond to client statements and compare their response to that of the professional counsellor
Part Five	Oral Instructions	Narrator gives subjects directions to listen to 15 different clients with problem statements and directs subjects to assume role of counsellor Twenty-second pauses occur between each client statement to give sufficient time to make reflection of feeling or empathic responses
	Client Problem Statements	15 different clients appear and make problem statements Subjects role-practice their responses
Part Six	Oral Instructions	Subjects are instructed to playback responses made to the 15 client problem statements Subjects listen to their own responses made to client problem statement

Note: For subjects in the Audiotape Recorder Group (ATR) an additional 10-minute uninterrupted counselling excerpt of a professional model counsellor and client was included. Subjects were asked to imagine themselves in an actual counselling situation and to respond silently when it was deemed necessary. No playback of responses was involved since subjects did not record their responses.

(Ivey, 1968), and the self-instructional training tape program.

Language laboratory video and audio group (LLV). For Treatment II, the self-instructional training tape containing both video and audio components was incorporated into the language laboratory. The language laboratory was especially equipped with a video monitor system. With the exception of the additional video stimuli, the treatment for this group was identical to the language laboratory group (LLA).

Audio tape recorder group (ATR). As in (LLA) and (LLV) experimental subjects in Treatment III read the "Response To Feeling" Manual and listened to the self-instructional training tape and covertly role-practiced their responses. Since playback of experimental subjects, responses was absent, an additional 10-minute uninterrupted counselling session between a professional counsellor and client was included so as to equalize the amount of treatment time given to (LLA) and (LLV).

Lecture — discussion group (LDM). In Treatment IV, subjects listened to a lecture given by the Director of Counsellor Education. The lecture was centered around the topic of reflection of feeling responses. This lecture was followed by a discussion. Instructional materials consisting of the skill of paraphrasing and the "Response to Feeling" Manual were distributed and discussed.

No-treatment control group (C). Subjects in Treatment V were exposed to neither the self-instructional training tape nor the reading materials, but participated in a tour of the counselling services.

Procedure

Immediately prior to the commencement of the training tapes and lecture, all subjects except those in the control group received instructions by means of the "Response to Feeling" Manual. The purpose was to provide subjects with information and instructions pertinent to the nature of empathic responses. Instructions utilized in this manner direct and motivate subjects to listen to or observe models responding to the client's feelings.

The procedure for all subjects in the language laboratory treatment group (LLA) was exactly the same. When subjects arrived, they were greeted by the experimenter and an assistant, who introduced themselves. All subjects were then assigned to individual private booths. Since the language laboratory was unfamiliar to many of the subjects, acquaintance with the surroundings, and familiarity with the electronic apparatus was necessary. Thus, prior to the commencement of the treatment, subjects practiced using the microphone and recorders to the satisfaction of the experimenter and each subject.

Once subjects were seated comfortably, an assistant and the experimenter distributed the "Response to Feeling" Manual. Appropriate time was allotted for subjects to read this manual. There was no discussion following the reading. Subsequently, the experimenter gave instructions to listen carefully to the training tape and to imagine themselves in an actual counselling situation. Subjects were instructed specifically to attend to the self-instructional training tape which contained the narrator's instructions, excerpts of three professional model counsellors, and the series of clients presenting problem statements. Subjects then donned their earphones and the training tape began. An assistant and the experimenter circulated around the laboratory to provide any necessary aid to subjects and to ensure that all systems were operating smoothly. For subjects in the language laboratory video and audio group (LLV), the procedure was highly similar to the language laboratory audio group (LLA), the major difference being the addition of a video monitor.

In the audiotape treatment condition (ATR), all subjects met in a classroom where they were greeted by the experimenter and an assistant, who introduced themselves and distributed the "Response to Feeling" Manual. No discussion followed the reading. The experimenter gave instructions to listen carefully to the training tape being played on the reel to reel tape recorder and to attend to the narrator's instructions, the four professional model counsellors counselling clients, and the series of clients presenting client problem statements. The content of the audio training tape was the same as the language laboratory treatment groups, (LLA) and (LLV), but for an additional 10-minute uninterrupted counselling excerpt of a professional model counsellor and client. In terms of treatment time, the audio treatment group received the same amount of treatment as the other groups. Another difference in the audio training tape was the narrator's instructions. All subjects were asked to imagine themselves in an actual counselling situation, and to respond silently when it was deemed necessary. Since subjects did not record their responses, no playback was involved.

In the lecture-discussion group (LDM) all subjects met in a classroom where they were greeted by the Director of Counsellor Education who served as lecturer for this group. Once seated, subjects received reading materials on the skill of paraphrasing and the "Response to Feeling" Manual. Having read these materials, a lecture was given followed by a demonstration of the skill of paraphrasing and reflection. Discussion centered around the topic of reflection of feelings in counselling. Treatment time for this group was similar to the other groups. The video and audio training tapes were neither observed nor listened to by the subjects of this statement group.

For subjects in the no-treatment control group, subjects met in a classroom where they were greeted by the experimenter and an assistant, who introduced themselves. The experimenter led subjects to the counselling office for a tour of the Division of Clinical Services located in the Education Building.

Procedure for all subjects in the transfer situation. Having completed the experimental treatments, all subjects, including controls, interviewed five students from two high schools. To give the interview some structure and to provide the client with a mental set, each client was given a card containing type instructions. This card was presented just prior to the interview and it read as follows:

You will be participating in a research project involving university students who are studying in the helping professions, and who are interested in developing their interviewing skills. You will be seeing him or her for

approximately 20 minutes. You should go into the office and interact with him as if he were your counsellor. It would be helpful if you could begin the interview by talking about something of personal concern to you, or of something which has troubled you in the past. You are free to discuss any subject that concerns you.

Simultaneously, prior to the interview, each experimental subject received a card containing typed instructions, which read as follows:

As part of your learning experience, you will have the opportunity to interview high school students who have volunteered to talk to someone in the helping professions. The length of this interview will be approximately 20 minutes. Therefore, it is necessary for you to interact with your volunteer client immediately upon entering the counselling office. During the interview you should attempt to explore those areas which are of personal concern to your client.

Clients were randomly assigned to experimental subjects. Once the typed instructions were read by both subjects and clients, the experimenter or assistant introduced them to each other and led them to a private counselling cubicle. There, they were reminded the interview would be audio recorded. Immediately following the interview, experimental subjects were asked to complete the Standard Communication Index (Carkhuff, 1969).

Accurate Empathy Scale. Two-minute segments were extracted from the beginning, middle, and final phases of the interview between subjects and clients and were rated according to the Accurate Empathy Scale (Truax, 1961). There were 309 2-minute segments. One audio recording from the audiotape treatment group (ATR) was judged defective and had to be discarded from the sample. Three raters, all graduate students in counselling psychology who were naive to the purpose of the study, were trained on the Accurate Empathy Scale to evaluate the audio-recorded subjects' interviews with live clients. The analysis of variance method for estimating interrater reliability yielded a coefficient of .89 (Winer, 1962). Following training, the raters proceeded to score

the data. Audio-taped excerpts were coded for identification by a table of random numbers and were then assembled on a master tape. In rating the samples, the raters listened in a group and rated each segment simultaneously and independently.

Standard Communication Index. The Standard Communication Index is a paper and pencil test developed by Carkhuff (1969) to assess a person's level of empathic communication. Three other raters, who were also graduate students in counselling psychology and naive to the purpose of the study, rated the 16 standard client expressions using Carkhuff's (1969) Empathic Understanding Scale. The estimate of interrater reliability as calculated by the analysis of variance method was .87 (Winer, 1962).

The data consisted of 1,664 written responses of 104 subjects. In preparation of the data for rating purposes, written responses were typed and number coded according to the treatment groups to eliminate any rater bias, which might have arisen from style and form. The typed responses were then presented in random order to the raters. Rating was conducted in a group and the three raters rated each response simultaneously and independently.

Results

This study yielded two sets of data: Judges' ratings of subjects interviews with live clients and judges' ratings of written responses on the Standard Communication Index.

The accumulated data of the judges ratings of 309 2-minute segments from the beginning, middle, and final phases of the interviews was subjected to a two-way analysis of variance with repeated measures.

Means and standard deviations of judges' ratings of segments are presented in Table 1.

An analysis of variance indicated the *F* ratio for treatment effects across groups was 4.52 and was significant ($p < .01$). For phase effects the *F* ratio was 8.15 and also was significant ($p < .001$). No

Table 1
Means and Standard Deviations of Judges' Ratings
of Segments for the First, Middle, and Final
Phases of Interviews on Accurate Empathy Scale

Interview Phase	LLA		LLV		ATR		LD		C	
	M	SD	M	SD	M	SD	M	SD	M	SD
Beginning	1.63	.59	2.08	1.15	2.53	1.00	1.90	.85	1.52	.41
Middle	1.28	.40	1.67	.87	1.93	.87	1.83	.88	1.39	.41
Final	1.32	.35	1.84	1.07	2.14	1.19	1.81	.93	1.47	.94

significant differences were recorded for the interaction between treatment and phase effects. Post hoc comparisons of the treatment means were made with Scheffé's test. The results indicate that subjects in the audiotape recorder group (ATR) were significantly higher ($p < .01$) in eliciting more empathic responses than subjects in the language laboratory audio (LLA) and the control group (C). No significant differences were found between subjects in the audiotape recorder group (ATR) and the language video and audio group (LLV) and the lecture-discussion group (LDM).

For the judges' ratings of 1,664 written responses on the Standard Communication Index, a one-way analysis of variance was performed. Table 2 presents the means and standard deviations of the judges' ratings for communication of empathy.

Table 2
Means and Standard Deviations of Judges' Ratings for Communication of Empathy on Standard Communication Index

Treatment Group	M	SD
I Language Laboratory Audio (LLA)	2.14	.33
II Language Laboratory Video and Audio (LLV)	2.06	.48
III Audiotape Recorder (ATR)	2.10	.38
IV Lecture-Discussion (LDM)	1.95	.45
V Control (C)	1.24	.16

The obtained F ratio of 19.82 for treatment effects was significant ($p < .001$). A Scheffé test was performed to determine differences across treatment groups. The findings indicate that all treatment groups scored significantly higher ($p < .001$) than the control group on the dimension of communicated empathy.

Discussion

The findings show that the use of the language laboratory as a teaching aid in this study is neither significantly superior nor inferior to the other instructional methods used.

The results also suggest that learning a complex verbal skill such as reflection of feeling or empathy can be accomplished by a brief self-instructional training tape program on an audiotape recorder. The study does give credence to the suggestions made by Ivey (1971), Yenawine and Arbuckle (1971), and Payne, Weiss, and Kapp (1972) that the media of instruction via audio-tape is important for learning verbal communication skills.

Although the language laboratory was not shown to be superior to other instructional media, numerous mediating factors may have inhibited its effectiveness.

None of the participating subjects had previous experience in the use of the language laboratory. Fifteen minutes for subjects to familiarize themselves in a private booth, insert audio recording tapes into the recording machine and to operate on, off, rewind, record, and forward switches, was too short a period for orientation. During treatment subjects exhibited anxiety related to the operation of the equipment. This anxiety no doubt hampered subjects attention to their learning of a new skill. Clearly, if one were to replicate this study, ample preparation of the subjects should be made by giving them more instruction and more opportunity to become acclimatized to the operation of the language laboratory. The results of the judges' ratings of audio recorded interviews with live clients indicated that treatment groups LLA, LLV, and LDM, did not score significantly higher on empathy than subjects in the control group. On the other hand, written responses made to the 16 stimulus expressions of the Standard Communication Index indicated that all treatment groups scored significantly higher than the control group on the dimension of communicated empathy. These results were not demonstrated in an actual interview with a live client. Thus, treatment effects made to the Standard Communication Index did not appear to be transferable to a real situation.

These results are supported by Blocksma and Porter's (1947) findings in which written test responses were not good predictors of interview behavior. They found students chose 89% reflective responses on the written test, but used 11% in an actual interview. There was little relationship between what students reported they would do, and what they actually did. In a study of attitudes, Munger, Meyers, and Brown (1963) found similar results. Students can learn to select more understanding responses on a paper and pencil test, but they do not always choose those responses in real-life situations.

Even though the relationship between ability to score on a paper and pencil test and the ability to function effectively in an interview situation is not high, all treatment programs resulted in high gains on the Standard Communication Index. This is especially important since the self-instructional training tape programs were only 52 minutes long. In contrast to the base-rate level of the control group of 1.24, empathy for all four treatment groups was increased to an average level of 2.08.

One important implication arising from this study is that a systematic self-instructional

training tape program is effective in teaching the counselling skill of reflection. A self-instructional training tape program based on modeling principles, simulation, role-practice, and an instructional manual is perhaps as effective as a lecture presentation of similar material. Thus, the advantage of this method is that it can free the instructor or supervisor for other teaching duties.

Moreover, where instructors may not be available, it would be possible to teach an interviewing skill such as reflection of feelings in remote areas like the Canadian North. Counsellor trainees in such remote areas could study these self-instructional taped programs at home. Having mastered the particular counselling skill, counsellor trainees could conduct an interview with a client, send the tape to their supervisor, who, in turn, could relay feedback regarding their interviewing skills.

This study was limited to the development of a self-instructional training tape program in one particular counselling skill which was reflection of feeling. Other self-instructional training tape programs such as the use of open-ended questions, attending, specificity of expression, and paraphrasing, are currently being developed at the University of Alberta. The counselling skill of reflection is a very difficult skill to thoroughly grasp. Counsellor trainees can use the self-instructional training tape program repeatedly until the skill becomes an essential part of their counsellor behavioral repertoire.

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