THE EFFECTS OF A SYSTEMATIC TRAINING PROGRAM IN RESPONDING SKILLS ON DENTAL HYGIENE STUDENTS AT TEXAS WOMAN'S UNIVERSITY

DISSERTATION

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This study dealt with the problem of determining the effects of a systematic training program in communication skills and dental professionalism training upon an intact group of dental hygiene students at Texas Woman's University.

The purposes of this investigation were (1) to determine if a systematic training program in communication skills could be used to improve written response levels of dental hygiene students, and (2) to determine if a systematic training program in communication skills could yield improved dental hygiene student-patient rapport. The experiment involved two groups of dental hygiene students that had previously been randomly selected and consisted of twelve junior and twelve senior students in each group. The entire population of dental hygiene students at Texas Woman's University participated in the study.

Three instruments were used in the study, the Standard Communication Index, developed by Robert Carkhuff, and two original instruments. The Patient's Response Subjective Scales were designed to measure dental hygienist stimulus statements. In the course of the study content validity

and concurrent validity with the Standard Communication Index were established. The other original instrument, the Patient Questionnaire, was designed to establish the amount of patient-hygienist rapport. It was judged to have content validity by a panel of judges.

The study was limited in three ways. (1) It was possible that the systematic training program itself taught the subjects proper responses to the instrument. (2) The study was limited to those dental hygiene students enrolled at Texas Woman's University, Spring, 1976, and should be generalized to other populations with care. (3) It is possible that trainer differences rather than training program differences could have accounted for the results.

At the start of the experiment all the subjects were pre-tested using the Standard Communication Index and the Patient's Responses Subjective Scales. The subjects in one group were exposed to systematic response training and the subjects in the other group received dental professionalism training. Immediately following their respective training programs the subjects were post-tested using the Standard Communication Index and the Patient's Responses Subjective Scales. Two weeks after the training program all the subjects were post-post-tested using the same two instruments.

Subsequent to the training phase, ten patients were selected for each subject and were administered a Patient

Questionnaire. Each patient was also post-tested with the Patient Questionnaire during the following four weeks.

Two trained raters evaluated the Standard Communication Index and the Patient's Responses Subjective Scales and the ratings were averaged on each subject. The Patient's Questionnaire was also scored.

Eight hypotheses were formulated for the study, with the .05 criterion level for significance being utilized. Analysis of covariance and simple analysis of variance were used to test the hypotheses.

Analysis of the data provided statistically significant findings on seven of the eight hypotheses. Those subjects in the systematic training program were able to demonstrate increased ability to write responses and, in addition, had higher patient rapport scores. The results were also statistically significant two weeks following the training period.

It was, therefore, concluded that the systematic training program in communication skills was an effective teaching device for improving dental hygiene responses. The systematic training program also seemed to be an effective strategy for improving dental hygiene student-patient rapport formation.

Recommendations as a direct result of the study were (1) a systematic training program such as the one used in this study whould become an integral part of any dental

hygiene training experience; (2) more experimental training should be combined with future training programs of this nature; (3) dental hygiene specific training materials need to be developed to include adequate revision of those instruments utilized in this study; and (4) more studies of this nature should be conducted with other health care auxiliaries.

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CHAPTER I

INTRODUCTION

The health-care field is beginning to grow and develop into one of the most dynamic and powerful industries in this country. This growth is in response to increased demand by the public for competent and well-trained specialists in a variety of areas. As expansion in the health-care field occurs, new and innovative curricula must be developed. This presents unique problems for health-care educators as well as prospective and currently enrolled students. Hillenbrand (12) writes that this country is in a time

> . . . when significant social changes are making new demands on all of the health professionals; a time when many people seem to have lost their respect for the past, their faith in the present, and their confidence in the future. This is a time when many cannot or will not respond to any change, when many want to be comfortable with the status quo . . . but it's not a good position in a time when the winds of change are sweeping the health professions and many of its traditions in this country (12, p. 319).

Dental hygiene is a relatively young profession and is just beginning to receive the formal public recognition it deserves. The dental hygienist serves as a very important auxiliary professional in the dental office. She is beginning to fill the gap that has existed between the professional dentist and the public in the area of health education and preventive dentistry. The professional health

care educator is taking notice of the new possibilities that exist in dental hygiene.

The dental hygienist has formal education and licensure that qualifiy her to have a direct professional relationship with her patients. She has responsibilities, independent of the dentist, that include prophylaxis, fluoride treatment, exposure of radiographs, and patient education. The hygienist has an unusual place in the health-care field in that she works directly with her patient on a one-to-one basis without the dentist's constant supervision. Although the dentist gives her work final approval, she does have independent patient contact.

Because the field of dental hygiene is just now beginning to become a dominant force in preventive dentistry, the training procedures have not fully been explored in all areas. The hygienist's training presently is centered around formal, technical, mechanistic, and scientific endeavor. Although the dental hygienist has an independent responsibility to her patients, she is given little or no human relations training other than social science prerequisite courses. (See Appendix II.) After having passed the National and State Board Examinations, she is permitted to begin her profession as a registered dental hygienist equipped with only technical and practical dental skills. In a time when health-care professionals work in such an intimate and

confidential way with their patients, the dental hygienist is ill trained for her role in the area of human-relations.

Health-care professionals are beginning to see the need for, and rationale behind, human-relations training. Medicine, nursing, dentistry and other health-care professions have been studied with regard to humanistic skills needed for successful job performance, and voids in that area are presently being remedied (14). Within the relatively new field of dental hygiene, the need for humanistic skills training has been overlooked. The only criterion for completion of a dental hygiene course of study is, as previously mentioned, technical skills and scientific knowledge.

A rapidly developing technology for systematic training of paraprofessional and lay persons in counseling techniques and humanistic skills presently exists in education and psychology. This technology provides the tools whereby all persons might be trained. Assessment and determination of the effects of these types of training and the particular strategies that seem to offer the most promise for dental hygiene can be shared with all other health-care agencies and dental hygiene training institutions.

Statement of the Problem

The problem of this study was to determine the effects of a systematic training program in communications skills, and dental professionalism training, upon an intact group of dental hygiene students at Texas Woman's University.

Purposes of the Study

There were two purposes to be served by this study. They were

1. to determine if a systematic training program in communication skills could be used to improve written response levels of dental hygiene students,

2. to determine if a systematic training program in communication skills could yield improved dental hygiene student-patient rapport.

Hypotheses

This study tested the following set of hypotheses:

1. Following the training period, dental hygiene students in Group A will exhibit significantly higher levels of response on the Patient's Responses Subjective Scales than will those dental hygiene students in Group B.

2. Dental hygiene students in Group A will exhibit, following the training period, significantly higher levels of response on the Standard Communication Index than will those dental hygiene students in Group B.

3. Patient response scores, as measured by the Patient's Questionnaire, will be significantly higher for dental hygiene students in Group A than for dental hygiene students in Group B.

4. Patient response scores, as measured by the Patient's Questionnaire, will be significantly higher for the senior

dental hygiene students in Group A than for juniors in Group B.

5. Patient response scores, as measured by the Patient's Questionnaire will be significantly higher for the senior dental hygiene students in Group A than for senior dental hygiene students in Group B.

6. Patient response scores, as measured by the Patient's Questionnaire, will be significantly higher for the junior dental hygiene students in Group A than for the junior dental hygiene students in Group B.

7. Dental hygiene students in Group A will exhibit, on the post-post-test, significantly higher levels of response on the Standard Communication Index than will those dental hygiene students in Group B.

8. Dental hygiene students in Group A will exhibit, on the post-post-test, significantly higher levels of response on the Patient's Responses Subjective Scales than will thos dental hygiene students in Group B.

Definition of Terms

1. Systematic Training Program is used in reference to an approach to teaching responding skills in the areas of empathy, respect, genuineness, concreteness, confrontation, immediacy, and self disclosure as defined by Carkhuff (5, 6), Carkhuff and Berenson (8), and Truax and Carkhuff (18).

2. Dental Hygienist is used to designate a licensed professional in the field of dental hygiene.

3. Dental Hygiene Student is used to designate a student member of the Department of Dental Hygiene of Texas Woman's University.

4. Patient is used to designate a person who receives dental care by a student in the Department of Dental Hygiene of Texas Woman's University.

5. Group A is used to designate those hygiene students who receive the Systematic Training Program.

6. Group B is used to designate those dental hygiene students who received the Professionalism Training.

7. Professionalism Training is used to indicate an experimental approach, used in the study, for teaching professionalism as it relates to dental hygiene.

Background and Significance

The role of the professional dental hygienist in the United States is constantly changing. More and more states are incorporating into law expanded duties with greater responsibilities for the dental hygienist. With each publication in popular and professional dental journals, the dental hygienist is called upon to assume more responsibilities. Wilkins (21) says

> The dental hygienist is a licensed, professional, oral health educator and clinical operator who, as an auxiliary to the dentist, uses scientific methods for

> the control and prevention of oral diseases to aid individuals and groups in attaining and maintaining optimum oral health (21, p. 15).

Until recently, the emphasis in dental hygiene preparation has been upon technical skills and scientific knowledge. Health educators now realize that the role of the competent health-care professional, and specifically, the dental hygienist, must be expanded to include communication skills. Ehrlich and Ehrlich (9) say, "The initial and ultimate goal in all person-to-person communication is to understand and be understood" (9, p. 5). Schwartzrock and Jensen (15) go on to include such familiar psychological basic needs, necessary to the successful dental hygienist, as a feeling of personal worth, self-preservation, love interest, security, recognition, and relief from fear. In a paper presented to the American Dental Hygienist's Association in November, 1974, Skaff (16) calls for dental hygiene education

> . . . to allow the student to explore the scope of her needs, interests, and abilities; to assist her in understanding herself and retaining her individuality, while at the same time, to instill in her those characteristics which we insist make "the professional," such as empathy, sincerity, altruism, cleanliness, and perseverance (16, p. 466).

Shulman (17) reporting on the works of Cappa (3) and Bohannan (2) says, "As a first step in the learning process, rapport and/or communication must be established between the patient and hygienist." Verhijen (19) has recognized the need for outside help in the hygienist training program and suggests that psychological techniques can be obtained for gaining

optimal cooperation from the patient. In speaking of the dental hygienist's responsibilities of service to the patient, Motley (13) says, "The dental hygienist, to communicate effectively, must learn to recognize total meaning and then respond appropriately to explicit and implicit feelings of others" (13, p. 45).

Carkhuff has developed a methodology for systematically teaching communication skills. Truax (18) describes the potency and widespread applicability of the Carkhuff system in this way.

> All effective interpersonal processes share a common core of conditions to facilitative human experience. The development of a standardized system wherein ratings can be assigned to levels of interpersonal functioning has greatly facilitated the quantification of these process variables (18, p. 323).

Bergin and Garfield (1) say of the Carkhuff method that this approach is an attempt to translate research and theory into effective practice by focusing on the experimental and didactic elements concurrently.

Carkhuff (5, 7) has documented the validity of his theory by research which shows it to be effective. Other research documentations of his theory include, Truax and Carkhuff (18), and Bergin and Garfield (1). In a study evaluating Carkhuff and Truax's training programs, Bergin and Garfield (1) report that Carkhuff and Truax had been able to bring the performance of students and lay people to a level similar to that of experienced therapists.

Further, Carkhuff's (8) research indicates that people who offer high levels of the interpersonal conditions of empathy, warmth, genuineness, concreteness, confrontation, immediacy, and self-disclosure tend to create an atmosphere for growth. A systematic training program for dental hygienists in the Carkhuff method of accurately rating communications can provide the mechanism for positive and continued growth in the field of dental hygiene.

Limitations

This study might have been limited by the nature of the training program because it was possible that the program itself taught the subjects proper responses to the instruments. Furthermore, due to the nature of the instruments, written communications were obtained with inferences made to oral communication.

The study was limited to those dental hygiene students currently enrolled in the junior and senior classes at Texas Woman's University, Department of Dental Hygiene, as of March 16, 1976, and should be generalized to other populations with caution. It is possible that the study might have been limited in that trainer differences, as well as training program differences, could have influenced the results.

Basic Assumptions

This study operated under the following assumptions:

1. The test instruments used in this study were adequate, valid, and reliable for use in the study.

2. The subjects in Group A did not interact with those of Group B concerning the nature of their respective training programs.

3. The personality characteristics of the subjects did not significantly interfere with their involvement in the training process.

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CHAPTER II

SYNTHESIS OF RELATED LITERATURE

The literature covered in this study represents an attempt to review important and relevant major theoretical and problematic issues utilized in the study. The review is organized to include three major divisions with sub-topics and other lesser constructs included in those two major topics.

1. The first major division is entitled Introduction and Theoretical Basis for Using Systematic Human-Relations Training in Responding Skills. This portion of the review will cite specific theoretical and methodological roots for systematic training programs, as well as an explanation of the origin of the major constructs involved.

2. The second major division is entitled The Effects of Systematic Training Programs upon Professional and Non-Professional Helpers. The issues covered in this section are clearly designed to show what has been done in the past with programs similar to the one utilized in this study.

3. The last major division is entitled The Established Need for Systematic Human Skills Training within the Field of Dental Hygiene. The intent of this portion of the chapter is to demonstrate the great need for innovative training programs

within educational and in-service settings in dental hygiene professional development.

Introduction and Theoretical Basis for Using Systematic Human-Relations Training in Responding Skills

The field of counseling, particularly those techniques and theoretical methodologies first employed and later elaborated upon in detail by Rogers (37), have long contended that unconditional positive regard, genuineness and empathetic understanding, represent the necessary and sufficient conditions for client personality change to occur. These core components of empathy, warmth and genuineness have been generally agreed upon by therapists to be the basis of interpersonal relationships. Garfield (15) says that the therapeutic conditions provided by the therapist (accurate empathy, non-possessive warmth and congruence) are the most important variables as far as change resulting from psychotherapy is concerned. When the levels of therapeutic conditions are high, presumably all other aspects, including client variables become of less importance, and positive change is anticipated.

That these qualities of empathy, non-possessive warmth and genuineness are essential, not just for the therapeutic relationship, but more generally for the self-growth and adjustment of the individual, is emphasized, not only by counselors and psychologists, but also by philosophers such as Martin Buber (7). He has said

> . . . the utmost growth of self is not accomplished, as people like to suppose today, in man's relation to himself,

> but in the relations between the one and the other . . . in making present to another self and in the knowledge that one is made present in his own self by the other.

Garfield (13) goes on to say that our current research evidence suggests that for effective interpersonal skills impact, one must not be decidedly low on any of the three qualities, and must be moderately high on at least two of them. In an effort to further define the concepts of genuineness, warmth, and empathy in the therapeutic model, Garfield (5) says

> Even if it were possible to be experiencing warmth and understanding from an unpredictable phony or a strongly defensive individual (including a potential enemy), it would seem likely to be more threatening than facilitative. In this sense, genuineness or non-defensiveness or unphoniness is most basic to a human relationship. This makes a trusting and open relationship possible. Once this is established, then non-possessive warmth provides the nonthreatening context and the positively motivating context of a relationship. Finally, the moment-by-moment empathetic grasp of the meaning and significance of the other's word can lead to the "work" of changing another person by any dialogue or manner. We communicate our understanding and stimulate him to openly understand and accept himself--both his current behavior, his pride and shame of past behavior, and his hopes and fears for his future behavior (5, p. 314).

The Effects of Systematic Training Programs Upon Professional and Non-Professional Helpers

Throughout the body of existing educational research, in-service training programs are being called for in the area of practical communication skills. Educators and practitioners alike seem to need viable periodic opportunities through which they can become aware of new approaches that have been demonstrated to enhance the helping process (5, 16, 11, 12). The need to develop systematic programs of in-service training for lay persons in other help related disciplines outside counseling and psychotherapy is of utmost importance.

Although there seems to be general agreement about the need, there are many factors that account for the infrequent generalization of objective and systematic programs to other disciplines. According to Ivey (31), "The chief barrier to meaningful research in interviewing, counseling and psychotherapy is the complex nature of the interaction" (31, p. 109). Furthermore, says Ivey

> It is difficult to systematize the many variables over one session to say nothing of a series of interviews in long term psychotherapy. Process and outcome research in interviewing has been handicapped by an inability to spell out variables in detail and to relate antecedent and consequent event (31, p. 109).

Other serious problems for generalization of specific training programs come from the conflict within the field of counseling itself. Many researchers argue whether counseling or counseling skills can be learned, and furthermore, if counseling is in itself worth while (5, 25, 54).

Bergin (4) has suggested that what is usually called "spontaneous improvement" in therapeutic research may well be covered by clients using some other person (usually not a professional) as he would a counselor. The available research evidence does not indicate that trained professional workers such as psychologists, psychiatrists, or social workers, have, on the average, more positive effects on clients or patients than do either no treatment or untrained or briefly trained non-professionals (5, 50, 55). Therefore, if the untrained or minimally trained individual has a

naturally high level of accurate empathy, non-possessive warmth, genuineness, and other interpersonal skills, it seems likely, from the present vantage point, that individuals who spend time with him will be helped. They may, in fact, obtain help if they were receiving formal counseling or psychotherapy from the social sanctioned professional.

Shapiro, et al. (41) offer research evidence that indicates that people disclose themselves more deeply to persons other than professionals who consistently offer the highest levels of the core conditions and further that they disclose themselves minimally to those who offer the lowest levels. Also, in a study by Shapiro and Voog (42), it was determined that the inherently helpful person can give positive direction to others. Specifically, helpful roommates in college were successful predictors for higher grade point averages and grade point increases for fellow roommates.

In spite of the apparent conflict within the field of counseling, considerable progress has been made over the last two decades toward the development and standardization of process measures that can be used by raters to identify accurately and reliably the type and quality of communication offered by the helper that influences the outcome of counseling. These core conditions, first associated with Rogers (37), formulate the theoretical rationale behind the construction of the Truax and Carkhuff (10, 11, 12, 21) "facilitative conditions." They have also been shown to be related to

constructive personality change in other theoretical approaches (3, 5, 21). Truax (49) describes the potency and widespread applicability of the findings in this way:

> All effective interpersonal processes share a common core of conditions to facilitative human experience. The development of a standardized system wherein rating can be assigned to levels of interpersonal functioning has greatly facilitated the quantification of these process variables (49, p. 323).

In order to rate the process variables of empathy, warmth and genuineness, much effort has been devoted to the development of reliable rating scales. Truax and Kiesler (38) report that only one set of scales has been able to successfully manipulate the therapeutic environment. These scales were first introduced by Truax and Carkhuff (53) and later refined by Carkhuff (16).

The scales are used to keep the therapist functioning at high levels of empathy, warmth and genuineness. These conditions, as previously mentioned, are viewed to be necessary for personality change to occur. Without an adequate set of operational data on the therapeutic conditions, good therapists often lapse into less therapeutic behavior (32) and poor therapists find it harder to maintain their therapeutic role (27).

Many researchers use the scales developed by Carkhuff and Truax to successfully rate therapist responses and link them to positive outcome. Beal (2) used the scales to rate responses in a treatment design study of clinical psychology graduate students. The students had been told that their

patients had been diagnosed as neurotic or psychotic. The patients were rated on "high," "low," or "no" motivational statements at predicted points in a movie. It was found that the scales were adequate predictors for the core conditions.

In a study by Holder, Carkhuff and Berenson (3), it is reported that the Carkhuff scales can be utilized to determine the depth of self-exploration for high and low functioning subjects. Similarly, Carkhuff and Alexik (15) report that levels of therapeutic conditions can be assessed. Others using the scales to make similar determinations include Carkhuff and Pierce (19), and Carkhuff and Truax (20).

Shapiro (46) provides more evidence that scales can be used to estimate degrees of empathy, warmth and genuineness present in interpersonal skills communication. He finds that variability in actual evaluations between trained raters and untrained people are in agreement (.70 correlation).

The Truax-Carkhuff scales show the following reliabilities in specific studies of rating accurate empathy, non-possessive warmth, and genuineness: (46) . . . .87 empathy, (54) . . . .89 empathy, .50 warmth and .40 genuineness, (54) . . . .69 empathy, and .55 warmth, (52) . . . .69 empathy, (57) . . . .87 empathy, .76 warmth and .80 genuineness, (6) . . . .95 empathy, .90 warmth and .95 genuineness, (61) . . . .88 empathy, .77 warmth and .41 genuineness, (23) . . . .83 empathy, .75 warmth, and .25 genuineness, (62) . . . .93 empathy, .81 warmth,

and .56 genuineness, (54) . . . .57 empathy, .62 warmth and .45 genuineness, (51) . . . .92 empathy, .95 warmth and .95 genuineness, (48) . . . .84 empathy, .86 warmth and .81 genuineness, (53) . . . .78 empathy, .70 warmth and .83 genuineness, (47) . . . .89 empathy, .50 warmth and .40 genuineness.

Systematic training of empathy, warmth, and genuineness using the research scales in an integrated didactic and experiential program is described by Truax, Carkhuff, and Doods (56) and Truax and Carkhuff (55). This training program applies to several training groups, both at professional and non-professional personnel levels. Bergin says,

> The three central elements in the training approach can be summarized as (37) a therapeutic context in which the supervisor communicates high levels of accurate empathy, non-possessive warmth, and genuineness to the trainees themselves; (38) a highly specific didactic training using the research scales for "shaping" the trainees' responses toward high levels of empathy, warmth, and genuineness; and (53) a focused group therapy experience that allows the emergence of the trainees' own idiosyncratic therapeutic self through self-exploration and consistent integration of his didactic training with his personal values, goals and life styles (5, p. 339).

The scales are completely described in Truax and Carkhuff's book, Toward Effective Counseling and Psychotherapy: Training and Practice (55). They are used to teach trainees to identify high and low levels of empathy, warmth and genuineness and to produce significant positive change in mildly and severely disturbed clients.

The dimensions of communication that can be taught systematically to both lay and professional personnel using a didactic experiential method are illustrated in several studies (5, 10, 12). Some of the studies focus upon empathy as the most important of the communication dimensions, while other training programs are more inclusive of all of the core components (1, 5). The remainder of this section will be devoted to an in-depth analysis of the effects of systematic training programs in this more comprehensive area.

Reddy (36) conducted a study to examine the differential effects of immediate and delayed feedback or knowledge of results on the learning of empathy in the context of counselor training. The hypothesis tested stated that levels of empathy should be increased as a result of subjects receiving immediate rather than delayed knowledge of results.

In Reddy's study, 36 male volunteers were randomly drawn from undergraduate psychology classes and randomly placed into one of three feedback groups: Immediate (A), Delayed (b), and Control (C); twelve subjects were assigned to a group. An assistant briefly explained to each subject the concept of empathy and gave examples of high and low degrees of this variable. Subjects were individually shown one of six psychotherapy films. During the appropriate interruptions in the selected film, subjects were asked to respond aloud empathetically to a simulated psychotherapy film (pre-measure). Subjects were then shown four additional films and given

appropriate feedback as to their empathetic performance. On a sixth film, subjects responded but received no feedback (post-measure). Pre and post responses were rated independently on a five-stage accurate empathy scale. Both experimental groups made significant gains ($p.>.01$). However, analysis of the post measure indicated superiority of the immediate feedback method over the delayed method ($p.>.05$). Further refinements were made by Reddy (36), wherein pre and post responses were analyzed into median number of words used per response and the total number of affect words used per group, and responses were categorized and analyzed by content. The findings of this study indicate that:

> The subjects in the immediate feedback group were reported to have responded more completely than the delayed feedback or the control groups. At the end of training, the median number of words per response used by the immediate feedback group had increased by one third. On the other hand, the delayed feedback group gained a few words per response and the no feedback group remained the same (36, p. 62).

Several studies have sought to establish the relationship between levels of effectiveness in communication and discrimination and the effectiveness of training in the development of skills in both areas. Carkhuff, Collingwood, and Renz (17) conducted one such study to determine the effects of an exclusively didactic training experience focusing primarily upon discrimination. The experience was conducted by a high functioning trainer.

Eighteen senior psychology students met once a week for two hours for eight weeks in a didactic training experience.

The subjects listened to and rated many tapes. The trainees had no opportunity to devise responses. The results indicated that training of this sort did not produce significant improvement in generalization of learning to communicate but yielded significant improvement in discrimination. The implication is that to affect differences in communication, the training must emphasize a behavioristic approach providing practice in communication skills.

Collingwood (22) further assessed the efficacy of training using a combination of didactic and experiential approaches with trainers shaping trainees' responses. The trainees consisted of ninety-eight members of an undergraduate psychology class. All trainees were asked to respond as helpfully as possible, in writing, to taped client expressions. The tape contained many problem areas and many different affective categories. The trainees received ten hours of training by a trainer with an integrated experimental and didactic approach to increase interpersonal communication skills. At the conclusion of all training, the trainees responded to a client stimulus expression tape, and those responses were rated for post-training functioning level.

The mean functioning level of the trainees before training was 1.49. Following training, the group mean was 2.77, with an individual mean gain of 1.30, significant at $p =>.001$. The amount of gain obtained was comparable to the gain shown in similar studies. The efficiency demonstrated

for training large groups of people in a short period of time to communicate at higher levels on relevant interpersonal dimensions, has many applications. Of significant interest here is the direct implication of training dental hygienists, in a relatively short period of time, to respond more effectively.

The trainer's level of interpersonal functioning has been consistently found to be a predictive variable in the determination of the effectiveness of training programs (5, 11). Carkhuff (18) conducted a study to determine the effect of human relations training on the communication and discrimination of facilitative conditions. It was hypothesized that high levels of communication would be related to high discrimination levels.

Tape ratings of fifty-four interviews conducted by clinical and non-clinical trainees cast as counselors in the helping role yielded a non-significant decline in the levels of empathy, regard, genuineness, concreteness, self disclosure, and overall level of conditions communicated by clinical trainees from beginning to advanced stages of training. The ratings of nine clinical professors suggest that:

> Trainees moved in the direction of the level of functioning of their professors. Graduate training did increase ability to make discriminations of the levels of conditions offered by other counselors in taped excerpts. A comparison group of eight trainees from another program who had been systematically exposed to the facilitative conditions was found to communicate and discriminate at significantly better levels than professional trainees (18, p. 68).

In landmark research conducted by Carkhuff and Truax (20), lay hospital personnel were able to demonstrate consistently high levels of therapeutic skills after a brief training period. After a mere one hundred hours of training, lay hospital personnel, such as hospital aids, were brought to levels of accurate empathy, warmth and genuineness usually offered by professional psychotherapists.

Having found that interpersonal skills can be learned in such a short period of time, the authors were led to two inferences (5):

1. These skills were relatively superficial and thus were learned quickly, or the skills were related to significant client growth and achievement. It was not likely that they were superficial.

2. The second inference was that these skills were learned, either overtly or covertly, in early formative interpersonal situations other than psychotherapy, and that direct training was sufficient to focus clearly on previous incidental learning.

Pierce and Schauble (35) found that counseling interns made significant gains in the facilitative core only if they had an individual supervisor who was himself functioning at high levels of empathy, positive regard, genuineness, and concreteness. If subjects had supervisors who were low on these dimensions, they did not gain. In this study, the

individual's supervisor had a powerful effect on the individual's behavior.

These findings are consistent with earlier studies (11, 64); however, in a later study, Pierce and Schauble (35) sought to determine if the results would be different if the supervisees received conflicting messages.

Specifically, they designed a study to determine what would happen if the practicum instructor operated at high levels and the immediate supervisor at low levels. They tested the following hypotheses:

1. Supervisees with high level practicum instructors and high level individual supervisors will show significant improvement on the core facilitative dimensions.
2. The supervisees with low level practicum instructors and low level individual supervisors will not show growth unless they are initially functioning much lower than their practicum instructors and supervisors.
3. The supervisees with high level practicum supervisors and low level individual supervisors, or vice versa, will show positive growth but growth will not be as rapid as in the high conditions (35, pp. 84-85).

The subjects were twenty-two graduate students who were enrolled in education or psychology practicums conducted in a college counseling center and who agreed to participate in the research. The results supported the first hypothesis, that the supervisees in the high - high conditions would show positive gain on the core facilitative dimensions. The supervisees showed improvement after periods of ten and twenty weeks.

Likewise, the second hypothesis was confirmed in that the supervisees in the low-low conditions did not gain unless they were significantly below their instructors and supervisors at the onset of the training. The third hypothesis was not confirmed.

The authors (35) concluded that high level practicum instructors are usually able to offset the effects of low level supervisors. The dental hygienist, if properly trained, should be able to positively influence others in the dental office. This could be accomplished with or without direct support from her immediate supervisor, the dentist.

Many studies have sought to select systematic human relations training. The nature of the individual and other important variables emerge in this context (11, 13, 18).

A study designed to determine the differential effects of training in interpersonal facilitation on persons who are functioning initially at various levels was conducted by Butler and Hansen (8). The training consisted of ten hours of didactic experiential training. Facilitative functioning was examined for acquisition, retention, and the equivalence of modes of assessing levels of facilitative functioning.

Pre-rated moderate level and low level functioning counselors in training were assigned to treatment and control groups according to a randomized block design. Results confirmed previous research indicating levels of facilitation can be increased whether assessed from written or oral

modes of responding. Pre-rated moderate trainees appeared more able to use the training for formulating higher facilitative oral responses in a counseling interview than did low level counselors. Post-training levels of functioning were maintained throughout the four-week latency period for both pre-rated moderate and low-level counselors.

Another example of the integration of didactic, experiential, and modeling approaches to training came from Carkhuff (14). Eight teacher-counselors were enrolled in a program for five mornings a week for six weeks. Carkhuff hypothesized that those teachers at high levels entering the program would profit most from the training. It focused upon the facilitative and action-oriented dimensions of empathy, respect, concreteness, genuineness, self-disclosure, confrontation, and immediacy.

It was determined that all trainees profited from interaction with high level functioning trainers. In addition, it was found that the level of communication derived from written responses to the standard client stimulus statements was improved. Carkhuff states,

> Results were highly related to the communication rating obtained when the helper is cast in the helping role with a standard client. And, it appears that both indexes of communication (a and b) appear to be potentially good predictors of post-training criteria while the pre-training criteria of discrimination remains unrelated to any post-training criteria (14, pp. 268-269).

Leitner (33) reported a study that demonstrated the effectiveness of training in promoting a more accurate self evaluation. In this study a procedure was developed that assessed the discriminative ability of individuals relative to identifying both high and low functioning counselors and their own capacity to be helpful. The methodology for determining this was by the use of twelve simulated therapy excerpts, each one involving a client and a counselor communicating with one another.

Twelve clinical and twelve counseling graduate students were chosen to take the program. They were similar in terms of previous course work and amount of therapeutic experience under supervision. The major difference between the two groups was that the twelve counseling students had systematic training on the facilitative conditions with trainers functioning at high levels of the conditions. An experienced but non-systematically trained Group A (n = 12) was compared to an experienced and systematically trained Group B (n = 12) as to their ability to discriminate another counselor's level of functioning and their own level of functioning.

Leitner found the experienced but non-systematically trained clinical psychology graduate students to be similar in their discrimination ability to experienced and systematically trained counseling graduate students when the discrimination was of another counselor's effectiveness. This discrimination ability was not consistent for the former

group when ratings were made of one's own effectiveness; the non-systematically trained sybjects (Group A) showed a significantly biased discriminative ability when asked to rate themselves. The author cites as one of the reasons why some did not possess good communication ability was that they had a poor ability to self-discriminate.

Much research exists in the area of teacher-counselor effectiveness. The dental hygienist has, among her roles and duties, that job of patient education. The implications drawn from the following research can apply directly to the dental hygienist.

An important contributing factor to the facilitation of the learning process has been found to be the kind of emotional climate that the teacher is able to create in the classroom (26). It was Gazda's (28) contention that for a teacher to be effective in facilitating the total growth and development of students, at least three primary conditions need to be met:

> (a) adequate preparation in the subject or course to be taught, (b) general knowledge of learning theory and the technical skills to present the material in a learnable fashion, and (c) a well-developed repertoire of interpersonal relationships in the classroom (28, p. 8).

It is with the third primary condition that the teacher and counselor are most related in terms of the kind of learning experience that they provide for the student. It is also the third condition that is directly related to systematic human relations training.

The Established Need for Systematic Human Skills Training within the Field of Dental Hygiene

The health care field and dental hygiene in particular has long called for and needed effective training in the general areas of communication skills. Recent research has stressed that health care auxiliaries must possess specific rapport development tools. Medicine, nursing, dentistry, and other health-care professionals have been studied with regard to humanistic skills needed for successful job performance, and voids in that area are presently being remedied (39).

Within the emerging field of dental hygiene, the need for humanistic skills training has been overlooked or overshadowed by other health care disciplines. The main criterion for completion of any dental hygiene course of study is acquisition of technical skills. Since the field of dental hygiene is such a dominant force in preventive dentistry and patient education, formal training procedures for acquiring humanistic skills should be fully explored by health educators.

Health educators now realize that the role of the competent health-care professional, and specifically, the dental hygienist, must be expanded to include communication skills. Ehrlich and Ehrlich (24) say, "The initial and ultimate goal in all person-to-person communication is to understand and to be understood." The hygienist works in an intimate one-to-one relationship with her patients. She must develop viable communication competencies.

It previously has been established in Chapter I of this report that researchers within the professional field of dental hygiene call for increased training in communication skills (6, 9, 29, 34, 40, 43, 44, 63, 65). Specifically, Stoll and Catherman (45) sum up the need for interpersonal training in dental hygiene when they write,

> It is necessary to understand that relationships are based on individual needs, motivation and behavior patterns. When we observe specific reactions by one person, we are receiving "cues" that help us to understand him. We come to know the people around us more intimately through these cues. . . . The ability to observe behavioral cues and relate them to an understanding of specific modes of behavior is a great asset in instructing and treating patients. If we are aware of the person as an individual with feelings we can act accordingly and relieve tension. Interpersonal relations are improved by a positive approach. The ability to relate to others with warmth and understanding increases our confidence in treating their dental problems successfully (45, pp. 20-21).

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CHAPTER III

METHODOLOGY

The major problem posed by this study was to determine the effects of a systematic training program in communication skills and dental professionalism training upon an intact group of dental hygiene students at Texas Woman's University.

Population

The population consisted of dental hygiene students and included the entire junior and senior classes enrolled in the Department of Dental Hygiene at Texas Woman's University. As part of their training, these dental hygiene students treat patients in the T.W.U. dental hygiene clinic to include prophylaxis, radiographs, patient education, and plaque control.

A total of forty-eight students were used, forty-seven females and one male. Twenty-four of the students were in the second semester of their junior year and twenty-four were in the second semester of their senior year. All the students had taken equivalent course work required in the first two years of college (see Appendix II) and had been previously selected to enter the program at the junior level, selection being based on set minimum standards for grade-point average and Dental Hygiene Aptitude Test score. The seniors

had one and a half years of clinical experience and the juniors had a half year of clinical experience at T.W.U. All of the student hygienists used in the study were volunteers. The forty-eight subjects had signed release statements of informed consent as required by the Department of Health, Education and Welfare in D.H.E.W. publication no. (NIH) 72-102, dated December, 1971. The subjects were randomly selected for the separate groups using a table of random numbers (7) with twelve juniors and twelve seniors in Group A, and twelve juniors and twelve seniors in Group B.

Ten patients from the dental hygiene clinic at Texas Woman's University were used for each hygiene student. They were selected using the following criteria:

1. The patients were at least seventeen years of age.
2. The patients volunteered to participate in the study.
3. The patients were from the group of the first ten patients following the training programs in initial patient-dental hygiene student contact in the dental hygiene clinic at Texas Woman's University, that met all other criteria.

The patients were assigned to their dental hygiene student based on patient and hygienist appointment time compatibility. All patients made appointments with their hygienist without previous knowledge of his/her level of skill or active friendship. The total number of patients utilized in the course of the study was 422.

Collection of the Data

Two types of data were collected for this study: (1) dental hygiene student data, and (2) patient data. The procedure for data collection will be discussed in the following section.

Dental Hygiene Student Data

Immediately prior to the respective training sessions, each dental hygiene student was given a packet of data collecting instruments. The packet contained the Standard Communication Index and the Patient's Responses Subjective Scales. Each of the dental hygiene students was asked to complete the instruments, and then immediately return them to the researcher. The students were given adequate time to complete the instruments and a brief explanation concerning the kind of data collected was provided. This information was then labeled as the pre-test data.

Post-testing, using the above-mentioned instruments, occurred immediately following the training sessions in both Group A and Group B. The students were once again given adequate time to complete the instruments and the data were immediately collected by the researcher.

Another post-test of the Standard Communication Index and the Patient's Responses Subjective Scales occurred two weeks following the training sessions. The dental hygiene students once again were given adequate time to complete the

instruments and the data were immediately collected by the researcher.

Patient Data

The Patient's Questionnaire was administered immediately following their initial appointments, to the first ten patients of each dental hygiene student that met the selection criteria. The questionnaire was administered by the researcher who positioned himself just outside the dental hygiene clinic at Texas Woman's University.

Each patient was post-tested on the Patient's Questionnaire, not sooner than one week, nor later than one month from the original testing. Some of the post-test data were collected by the researcher at the T.W.U. dental hygiene clinic, and the rest were collected by a comprehensive mailing directly to the patients. The patients were asked, in the mailing, to fill out another questionnaire, and a self-addressed, stamped envelope was provided for the patient to return the data to the researcher. No additional follow up was utilized on non-returns. A total of 422 out of 480 possible samples was collected.

Instruments

The Standard Communication Index was used as a pre-test post-test instrument for determining communication skills development in the training phases. It was a series of eight written excerpts which represented helpee stimulus expressions

developed by Carkhuff (3). It was further utilized as an index for measuring the helper's level of interpersonal functioning in responding to expressions of affect and content related to different problem areas. Directions were given respondents to be as helpful as possible in responding to the person seeking help. Responses were rated on a five-point scale (see Appendix C) by professional raters.

Hefile and Hurst (10) reviewed Carkhuff measures of interpersonal skill in terms of precision, validity, and utility. They reported,

> In the case of the rating scales, traditional concurrent procedure is really content validation of the scales. We believe the content validity of the scales to be quite high since the definitions generally flow quite directly from Rogers' (11) definition of interpersonal process dimensions (10, p. 65).

Additional support for the concurrent validity of the scales was also provided in a recent study by Bachrac, Mintz, and Luborski (1).

Predictive and construct validity of the findings were concluded by a series of studies which experimentally established a link between rating of therapists' communication skill and the direction of client movement (1, 10). The direct effect of the clinical trainer's level of facilitative functioning on trainee's level of facilitative functioning was also consistently found. There was a large body of evidence supporting Carkhuff's contention that the indexes of communication had been devised, standardized, and validated in a direct and straightforward way.

Patient's Responses Subjective Scales was an experimental instrument specifically designed to extract the same information as the Standard Communication Index but targeted, more directly, the dental hygiene student than the Standard Communication Index. The scale consisted of six stimulus statements to which the dental hygiene student was asked to respond. The responses were rated by trained raters using the Carkhuff continuum with a scale of one to five points.

The Patient's Responses Subjective Scales had been evaluated by a panel of three judges, and it had been found that each item on the scale had total agreement among the three judges for the purpose of establishing content validity. In the course of the study, concurrent validity was sought with the Standard Communication Index and findings will be reported in Chapter IV. Reliability for the instrument was obtained in the study by the test-retest method and will be reported in Chapter IV. The judges believed the scales to be an accurate measure of the information sought by the study.

The Patient's Questionnaire was an experimental instrument specifically designed for this study. A standardized, more fully researched instrument for the purpose of obtaining patient information of this nature, could not be found.

The questionnaire had ten items that the subject was asked to respond to on a continuum scale of one to ten, from agree to disagree. A mean score was extracted from the total

ten responses and represented the composite response of the patient to the dental hygiene student.

The Patient's Questionnaire was evaluated by a panel of three judges, and unanimous agreement was reached on each test item. The judges agreed that the instrument, as a whole had content validity. Reliability on the Patient's Questionnaire was established during the course of the study and will be reported in Chapter IV.

Raters and Judges

Two professional raters used to evaluate the Standard Communication Index and the Patient's Responses Subjective Scales were trained utilizing the methodology employed in a previous study (6). The two raters responsible for those assessments were advanced doctoral students with majors in Counseling and Student Personnel Services.

As a preliminary check of inter-rater reliability, each of the two raters who participated in the study was asked to rate a series of written excerpts obtained by the researcher. A Scott's coefficient (8) was computed on the two sets of ratings to determine the level of inter-rater reliability. A pre-established .95 level of agreement $\pm$.5 was achieved before each of the two raters was given the written responses made by the hygienists on the Standard Communication Index and the Patient's Responses Subjective Scales.

The members of the panel of judges utilized to assess content validity for the Patient's Responses Subjective Scales and the Patient Questionnaire were in total agreement with all items on each instrument. The judges were selected for

1. Technical knowledge of subject area.

2. Training and qualifications in testing and measurement.

3. Formal and certified licensing in the field of psychological services.

Two of the three judges were full time counselor education faculty members at North Texas State University. Both were licensed psychologists in the state of Texas. The third judge was a North Texas State University psychometrist.

Group A Training Program

The Group A training program was conducted on March 16, 1976, from 6:00 p.m. to 9:00 p.m. All participants in the Group A training were cautioned not to reveal the nature of their training program to Group B members and were assured that the training was to be on a purely voluntary basis. The training program was conducted by a counseling psychologist from North Texas State University, with the assistance of the researcher. The Group A training was administered according to the following outline:

1. Introduction and Background of the Carkhuff Scale (10 minutes)

2. Discussion of the Facilitative Mode

a. Empathy (20 minutes)

The empathy training consisted of the following from Carkhuff (5). Level One is reached when the verbal and behavioral expressions of the helper do not attend to and detract significantly from the verbal and behavioral expressions of feelings 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 expression. Level Two is reached when 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. The helper tends to respond to the less relevant portions of the helpee's expression. Level Three is reached when the helper responds to the expressed feelings of the helpee so that his expression is essentially interchangeable 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. The helper is responding to what the helpee is saying. Level Four is reached when 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. The helper is responding more to what the helpee is not saying. Level Five is reached when the helper's responses add significantly to the feeling and meaning of the helpee's expression. The helper responds with accuracy to all the helpee's surface and deep feelings. He is communicating full awareness of the helpee as a person.

The empathy training also included the following from Gazda (9):

3.5 - 5 = A response that conveys that the helpee is understood beyond his level of immediate awareness; underlying feelings are identified. Content is used to complement affect in adding deeper meaning. If content is inaccurate, the level of the response may be lowered.

1.5 - 2.5 = A response that only partially communicates an awareness of the surface feelings of the helpee. When content is communicated accurately, it may raise the level of the response; conversely, it may lower the level of the response when communicated inaccurately.

1.5 - 0 = An irrelevant or hurtful response that does not appropriately attend to the surface feelings of the helpee. However, in instances where content is communicated accurately, it may raise the level of the response.

b. Respect (20 minutes)

The respect training included the following from Carkhuff (5): Level One is reached when the verbal and behavioral expressions of the helper communicate a lack of respect (or negative regard) for the helpee. The manner and tone of the helper's expressions communicates that the helpee's feelings and experiences are not worthy of consideration. Level Two is reached when the helper responds in a manner which shows little respect for the feelings, experiences and the potentials of the helpee. The helper may respond in a mechanical or passive manner and ignore many of the helpee's real concerns and feelings. He may give inappropriate advice indicating that the helpee has little potential to act on his

own problems. Level Three is reached when the helper communicates a positive regard for the helpee's feelings, experiences and potentials. The helper communicates a concern for the helpee's ability to express himself and deal constructively with his life situation. The helper communicates that he really cares. This is the minimal effective level. Level Four is reached when the helper communicates a deep concern and respect for the helpee. The helper's responses enable the helpee to feel free to be himself and to experience being valued as an individual. Level Five is reached when the helper communicates the deepest respect for the helpee's worth as an individual and his potentials.

The respect training also included the following from Gazda (9):

3.5 - 5 = A response that demonstrates the helper's willingness to make sacrifices and bear the risk of being hurt in order to further the helping relationship. This results in the helpee experiencing himself as a valued individual and stimulates deeper interaction by allowing the helpee to feel free to be himself.

2.5 - 3.5 = A response that communicates that the helper is open to or will consider entering a helping relationship. It communicates recognition of

the helpee as a person of worth, capable of thinking and expressing himself and able to act constructively. The helper suspends acting on his judgment of the helpee in his situation.

1.5 - 2.5 = A response in which the helper withholds himself from involvement with the helpee. This may be communicated by declining to enter a helping relationship, by ignoring what the helpee is saying, or by responding in a casual or mechanical way. Such responses tend to terminate the interaction.

0 - 1.5 = A response that overtly communicates disrespect. The helper may attempt to impose his own beliefs and values onto the helpee, seek to focus attention on himself by dominating the conversation, instantly challenge the accuracy of the helpee's perception, or devaluate the worth of the helpee as an individual by communicating that the helpee is not able to function appropriately on his own. These responses leave the helpee wishing that he had not talked to the helper, and probably preclude future interactions.

c. Genuineness (20 minutes)

The genuineness training included the following from Carkhuff (5): Level One is reached when the helper's responses are clearly unrelated to what he is feeling at the moment, or his honest responses

are completely destructive to the helpee. In many respects the helper is defensive. Level Two is reached when the helper's responses are slightly unrelated to what he is feeling at the moment, or if his responses are honest they are slightly negative and destructive so that the helpee cannot react constructively as a basis of inquiry. The helper may respond in a professional manner with a rehearsed quality. The helper just doesn't sound genuinely human (a monotone). Level Three is reached when the helper provides no negative cues or positive cues to indicate a truly honest response. The helper communicates that he is listening but his responses do not reflect that he is insincere or that he is deeply involved either. This is the minimally facilitative level. Level Four is reached when the helper presents cues indicating a genuinely honest response (whether positive or negative) in a non-destructive manner. The helper's responses express his honest feelings in a constructive manner. Level Five is reached when the helper is freely and deeply expressing himself honestly. The helper is totally honest and spontaneous and is being constructive.

The genuineness training also included the following from Gazda (9):

3.5 - 5 = A response in which the helper's verbal and nonverbal messages, whether they be positive or negative, are congruent with how he feels. These feelings are communicated in a way that strengthens the relationship.

2.5 - 3.5 = A controlled expression of feelings which facilitates the relationship. The helper refrains from expressing feelings which could impede the development of the relationship.

1.5 - 2.5 = The helper responds according to some preconceived role. His responses are congruent with the role he is taking but are incongruent with his true feelings.

0 - 1.5 = A response in which the helper attempts to hide his feelings or uses them to punish the helpee.

3. Discussion of the Action Mode

a. Concreteness (10 minutes)

The concreteness training included the following from Carkhuff (4): Level One is reached when 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 Two is reached when 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 Three is reached when 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 Four is reached when 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 Five is reached when 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.

The concreteness training also included the following from Gazda (9):

3.5 - 5 = The helper responds to the helpee in specific and concrete terms and actively solicits specificity from the helpee. During the earlier stages this may involve asking for clarification of vague or abstract helpee statements. During the

later stages, it may entail assisting the helpee to enumerate clear and concrete alternatives that derive from the interaction, summarizing his newly acquired self understanding, or outlining his plans for future action.

2.5 - 3.5 = The helper responds to the helpee in specific and concrete terms. The helper accepts abstraction on the part of the helpee but models specificity.

1.5 - 2.5 = The helper responds to the helpee in general terms. He does not focus on specific manifestations of helpee concerns. He may ask the helpee to be more specific without modeling specificity himself.

0 - 1.5 = The helper responds to the helpee in abstract and vague terms, or he responds in a very specific but premature and hurtful manner.

b. Confrontation (10 minutes)

The confrontation training included the following from Carkhuff (2): Level One is reached when the verbal and behavioral expressions of the helper disregard the discrepancies in the helpee's behavior (ideal versus real self, insight versus action, helper versus helpee's experiences). The helper may simply ignore all helpee discrepancies by passively accepting them. The helper simply disregards all of those

discrepancies in the helpee's behavior that might be fruitful areas for consideration. Level Two is reached when the verbal and behavioral expressions of the helper disregard the discrepancies in the helpee's behavior. The helper, although not explicitly accepting these discrepancies, may simply remain silent concerning most of them. The helper disregards the discrepancies in the helpee's behavior, and potentially important areas of inquiry are ignored. Level Three is reached when the verbal and behavioral expressions of the helper, while open to discrepancies in the helpee's behavior, do not relate directly and specifically to these discrepancies. The helper may simply raise questions without pointing up the diverging directions of the possible answers. While the helper does not disregard discrepancies in the helpee's behavior, he does not point up the directions of these discrepancies. Level Three constitutes the minimum level of facilitative interpersonal functioning. Level Four is reached when the verbal and behavioral expressions of the helper attend directly and specifically to the discrepancies in the helpee's behavior. The helper specifically addresses himself to discrepancies in the helpee's behavior. Level Five is reached when the verbal and behavioral expressions of the helper are keenly and continually

attuned to the discrepancies in the helpee's behavior. The helper confronts the helpee with helpee discrepancies in a sensitive and perceptive manner whenever they appear. The helper does not neglect any potentially fruitful inquiry into the discrepancies in the helpee's behavior.

The confrontation training also included the following from Gazda (9):

3.5 - 5 = A response which clearly points out discrepancies which the helper has noticed and the specific directions in which the discrepancies lead. This focuses the helpee's attention on specific discontinuities in his behavior. It facilitates his dealing with areas of which he had been unaware or brings out more clearly a discrepancy of which he had been vaguely aware.

2.5 - 3.5 = The helper indicates discrepancies without pointing out the specific directions in which these lead. He is tentative in comparing diverging communications expressed by the helpee. This allows the helpee to explore different areas in which he may become aware of diverging trends in his behavior.

1.5 - 2.5 = The helper does not explicitly draw attention to discrepancies in the helpee's behavior. He does not overtly accept or deny these discrepancies

but does not point them out to the helpee either. He may simply remain silent about the discrepancies or reflect the helpee's feelings about them. The helpee, therefore, is not explicity aware of possibly useful areas of inquiry.

0 - 1.5 = A response which does not allow any consideration of discrepancies existing for the helpee. The helper may accept the discrepancies expressed by the helpee, may contradict the expressed or felt conflict of the helpee, ignore the discrepancies or give direction prematurely. In any of these instances, the helper is closing off possibly fruitful avenues of investigation.

c. Immediacy (10 minutes)

The immediacy training included the following from Carkhuff (2): Level One is reached when the verbal and behavioral expressions of the helper disregard the content and affect of the helpee's expressions that have the potential for relating to the helper. The helper may simply ignore all of the helpee communications, whether direct or indirect, that deal with the helper-helpee relationship. The helper simply disregards all of those helpee messages that are related to the helper. Level Two is reached when the verbal and behavioral expressions of the helper disregard most of the helpee expressions

that have the potential for relating to the helper. Even if the helpee is talking about helping personnel in general, the helper may remain silent or just not relate the content to himself. The helper appears to choose to disregard most of those helpee messages that are related to the helper. Level Three is reached when the verbal and behavioral expressions of the helper, while open to interpretations of immediacy, do not relate what the helpee is saying to what is going on between the helper and the helpee in the immediate moment. The helper may make literal responses to or reflections on the helpee's expressions or otherwise open-minded responses that refer to the helper. While the helper does not extend the helpee's expressions to immediacy, he is not closed to such interpretations. Level Three constitutes the minimum level of facilitative interpersonal functioning. Level Four is reached when the verbal and behavioral expressions of the helper appear cautiously to relate the helpee's expressions directly to the helper-helpee relationship. The helper attempts to relate the helpee's responses to himself, but he does so in a tentative manner. The helper relates the helpee's responses to himself in an open, cautious manner. Level Five is reached when the verbal and behavioral expressions of the

helper relate the helpee's expressions directly to the helper-helpee relationship. The helper, in a direct and explicit manner, relates the helpee's expressions to himself. The helper is not hesitant in making explicit interpretations of the helper-helpee relationship.

The immediacy training also included the following from Gazda (9):

3.5 - 5 = Helper and helpee explicitly discuss their interpersonal relationship as it exists at that moment.

2.5 - 3.5 = Helper discusses the interpersonal relationship between himself and the helpee, but in a general rather than a personal way. This obscures the uniqueness of their relationship. Helper is open to sharing responsibility for any defects which may exist in the relationship.

1.5 - 2.5 = Helper consciously gives token recognition to helpee statements about their interpersonal relationship but postpones discussing it or dismisses it after having commented on it superficially.

0 - 1.5 = Helper ignores all cues from helpee which deal with their interpersonal relationship.

d. Self Disclosure (10 minutes)

The self disclosure training included the following from Carkhuff (5): Level One is reached when

the helper actively attempts to remain detached from disclosing anything of himself to the helpee. The helper, by avoiding to show the helpee who he is, may cause the helpee to lose faith in him. Level Two is reached when the helper, while not appearing to actively avoid self-disclosures, never volunteers personal information about himself. The helper may respond to direct questions from the helpee but does so in a brief and vague manner. Level Three is reached when the helper volunteers personal information about himself in keeping with the helpee's interests and concerns, but this information is often vague and indicates little about the unique character of the helper. While the helper volunteers personal information and ideas and never gives the impression that he doesn't wish to disclose more about himself, the content of his verbalizations are generally centered upon the reactions of the helpee and ideas concerning their interaction. The helper volunteers personal information but the content does not stamp him as a unique person. This is the minimal facilitative level. Level Four is reached when the helper freely volunteers information about his personal attitudes and experiences that are relevant to the helpee's concerns. The helper's expressions reveal that he is a unique individual. The helper

is free and spontaneous in volunteering personal information which may reveal, in a constructive fashion, quite intimate material about his own feelings, values and beliefs. Level Five is reached when the helper volunteers very intimate and often detailed material about his own personality which is in keeping with the helpee's needs. The helper gives the impression of holding nothing back in disclosing his feelings and ideas, fully and in a constructive fashion.

4. Explanation of the Scale Continuum (30 minutes)

This explanation included the following information from Carkhuff (2): The facilitator is a person who is living effectively himself and who discloses himself in a genuine and constructive fashion in response to others. He communicates with accurate empathetic understanding and respect for all of the feelings of other persons and guides discussions with these persons into specific feelings and experiences. He communicates confidence in what he is doing and is spontaneous and intense. He is open and flexible in his relationships with others and committed to their welfare.

The scale below represents a continuum to rate the presence of the core facilitative conditions of empathy, respect, genuineness, and concreteness.

1.0 1.5	2.0 2.5	3.0 3.5	4.0	4.5 5.0
None of these conditions are communicated to any noticeable degree in the person	Some of the conditions are communicated and some are not	All conditions are communicated at a minimally facilitative level	All of the conditions are communicated and some are communicated fully	All are communicated fully, simultaneously and continually

Fig. 1--Core Facilitative Conditions Continuum

5. Questions and Answers Handled Periodically Throughout Training (Approximately 10 minutes)

6. Triad Training (30 minutes) (See Appendix III)

During the Triad Training, the hygiene students were given supervised experiential training in responding skills. The subjects were divided into groups of three and rotated between the roles of hygienist, patient, and rater. Each triad was given a group of practice stimulus statements and immediate feedback was available to each group by the trainer. (See Appendix I.)

Note: Cassette tapes of the entire training session are available upon request.

Group B Training Program

The Group B training was conducted on March 16, 1976, from 6:00 p.m. to 9:00 p.m. All participants in the Group B training were cautioned not to reveal the nature of their

training to Group A members and were assured that the training was on a purely voluntary basis. The training program was conducted by licensed D.D.S., with the assistance of his dental assistant. The Group B training roughly followed the following outline:

1. Introduction to Professionalism (30 minutes)
    a. Definition of professionalism as it relates to dental hygiene
    b. Meaning of non-professional
    c. Implications for professional growth in dental hygiene
2. Professionalism and the Patient (30 minutes)
3. Small Group Discussion of Selected Topics (60 minutes)
    a. Professionalism in the office
    b. Professionalism in the community
    c. Professionalism in the family
    d. Professionalism and the professional organizations
4. Questions and Answers were periodically handled throughout the Training Phase (Approximately 40 minutes)

The Group B training was much less structured, due to the nature of the trainer, than was the Group A training.

Note: Cassette tapes of the entire training session are available upon request.

Procedure for Treatment of the Data

The tenability of the hypotheses was determined by examining the data and treating them statistically according to the standard scheme for computing analysis of covariance and simple analysis of variance. These statistical computer programs were available at the computing center of North Texas State University.

In testing hypotheses one, two, seven, and eight, the analysis of covariance was used to test the significance of difference between the two randomly selected independent samples of dental hygiene students (7). The pre-test scores obtained by the dental hygiene students on the Standard Communication Index were used as the covariate measures for one of the three analyses of covariance computed. The other covariate measures used were the pre-test scores obtained by the dental hygiene students on the Patient's Responses Subjective Scales. Pre-test mean scores, post-test mean scores, adjusted mean scores, and post-post-test mean scores on each instrument for the two groups were computed for the test of the hypotheses.

Hypotheses three, four, five, and six were tested by a one-way analysis of variance procedure (7).

All hypotheses were re-stated in null form for testing purposes, and the .05 level of significance was used. The data from the instruments and analysis will be reported in tables in Chapter IV.

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CHAPTER IV

RESULTS

The purpose of this chapter is to present and analyze data obtained in this study. The statistical analyses were derived by using the standard scheme for computing analysis of covariance, and simple analysis of variance. The test-retest Pearson-product moment correlation methodology was used to compute the reliability factor (2). Concurrent validity data will be shown in an effort to establish concurrent validity between the Standard Communication Index and the Patient's Responses Subjective Scales (1, 2). (See Appendix III.)

The data presented in this section are organized into three major sections. The first section presents the analysis of data related to determining the effects of a systematic training program upon dental hygiene student written responses. The second section is devoted to the presentation and analysis of the relationships between the dental hygiene students and their parents. Finally, the third section presents the analysis of the data utilized to establish validity and reliability of the experimental instruments.

The Effects of a Systematic Training Program in Responding Skills on Written, Dental Hygiene Student, Response Levels

Group A vs. Group B Written Response Levels as Measured by the Patient's Responses Subjective Scales

Hypothesis 1 stated that following the training period, dental hygiene students in Group A will exhibit significantly higher levels of response on the Patient's Response Subjective Scales than will those dental hygiene students in Group B.

The Patient's Responses Subjective Scales was used as a measure of dental hygiene student response levels in specific dental hygienist-patient communications. The scale contained six stimulus statements to which the dental hygiene students were asked to respond. The null hypothesis is that there is no significant difference between the mean scores for Group A and Group B. The findings of these comparisons are presented in Tables I and II.

TABLE I

MEANS AND STANDARD DEVIATIONS FOR PATIENT'S RESPONSES SUBJECTIVE SCALES SCORES

Group	Means			Standard Deviations	
	Pretest	Posttest	Adjusted	Pretest	Posttest
A	1.8488	2.0827	2.0812	.1900	.2197
B	1.7937	1.7280	1.7296	.1454	.1112

TABLE II

ANALYSIS OF COVARIANCE OF PATIENT'S RESPONSES SUBJECTIVE SCALES SCORES

Source of Variance	DF	Sum of Squares	Mean Square	F	p
Total	46	2.8339			
Within	45	1.3905	0.0309		
Difference	1	1.4434	1.4434	46.7120	0.0000

The adjusted mean for Group A was significantly higher than that of Group B, so the null hypothesis was not retained and the stated Hypothesis 1 was accepted. The level of significance met the required level for confirmation of this hypothesis. Therefore, Group A did write better responses than did Group B on the Patient's Responses Subjective Scales following the training period.

Group A vs. Group B Written Response Levels as Measured by the Standard Communication Index

Hypothesis 2 stated that dental hygiene students in Group A will exhibit, following the training period, significantly higher levels of response on the Standard Communication Index than will those dental hygiene students in Group B.

The Standard Communication Index was used as a measure of dental hygiene student response levels to specific

counselor-client stimulus statements. The scale contained eight stimulus statements that displayed a wide variety of content and affect. The null hypothesis is that there is no significant difference between the mean scores for Group A and Group B. The findings of these comparisons are presented in Tables III and IV.

TABLE III

MEANS AND STANDARD DEVIATIONS FOR STANDARD COMMUNICATION INDEX

Group	Means			Standard Deviations	
	Pretest	Posttest	Adjusted	Pretest	Posttest
A	1.3213	2.0412	2.0061	.1720	.3576
B	1.2333	1.2385	1.2736	.1688	.1263

TABLE IV

ANALYSIS OF COVARIANCE OF STANDARD COMMUNICATION INDEX SCORES, PRE - POST (1)

Source of Variance	DF	Sum of Squares	Mean Square	F	p
Total	46	8.4714			
Within	45	2.4525	0.0545		
Difference	1	6.0189	6.0189	110.4379	0.0000

The adjusted mean for Group A was significantly higher than that of Group B, and the null hypothesis was therefore not retained. The stated hypothesis 2 was accepted. The level of significance met the required level for confirmation of this hypothesis. Therefore, Group A did write better responses than did Group B on the Standard Communication Index following the training period.

Hypothesis 7 stated that dental hygiene students in Group A will exhibit, on the post-post-test, significantly higher levels of response on the Standard Communication Index than will those dental hygiene students in Group B.

The Standard Communication Index was used as a measure of dental hygiene student response levels to specific counselor-client stimulus statements. The null hypothesis is that there is no significant difference between the mean scores for Group A and Group B. The findings of these comparisons are presented in Tables V and VI.

TABLE V

MEANS AND STANDARD DEVIATIONS FOR STANDARD COMMUNICATION INDEX

Group	Means			Standard Deviations	
	Pretest	Posttest	Adjusted	Pretest	Posttest
A	1.3213	1.8241	1.8004	.1720	.3919
B	1.2333	1.2673	1.2909	.1688	.2191

TABLE VI

ANALYSIS OF COVARIANCE OF STANDARD COMMUNICATION INDEX SCORES, PRE - POST - POST (1)

Source of Variance	DF	Sum of Squares	Mean Square	F	p
Total	46	7.1615			
Within	45	4.2491	0.0944		
Difference	1	2.9125	2.9125	30.8447	0.0000

The adjusted mean for Group A was significantly higher than that of Group B, and the null hypothesis was therefore not retained. The stated Hypothesis 7 was accepted. The level of significance met the required level for confirmation of this hypothesis. Therefore, Group A did write better responses than did Group B even after an extended period of time on the Standard Communication Index.

Group A vs. Group B Written Response Levels As Measured by the Patient's Responses Subjective Scales

Hypothesis 8 stated that dental hygiene students in Group A will exhibit, on the post-post-test, significantly higher levels of response on the Patient's Responses Subjective Scales than will those dental hygiene students in Group B.

The Patient's Responses Subjective Scales was used as a measure of dental hygiene student response levels in specific

dental hygienist-patient communications. The null hypothesis is that there is no significant difference between the mean scores for Group A and Group B. The findings of these comparisons are presented in Tables VII and VIII.

TABLE VII

MEANS AND STANDARD DEVIATIONS FOR PATIENT'S RESPONSES SUBJECTIVE SCALES

Group	Means			Standard Deviations	
	Pretest	Posttest	Adjusted	Pretest	Posttest
A	1.8488	1.6387	1.6340	.1900	.3133
B	1.7937	1.3350	1.3398	.1454	.1577

TABLE VIII

ANALYSIS OF COVARIANCE OF PATIENT'S RESPONSES SUBJECTIVE SCALES SCORES

Source of Variance	DF	Sum of Squares	Mean Square	F	p
Total	46	3.8000			
Within	45	2.7896	0.0620		
Difference	1	1.0104	1.0104	16.2991	0.0002

The adjusted mean for Group A was significantly higher than that of Group B, and the null hypothesis was therefore not retained. The stated Hypothesis 8 was accepted. The

level of significance met the required level for confirmation of this hypothesis. Therefore, Group A did write better responses than did Group B, even after an extended period of time, on the Patient's Responses Subjective Scales.

Analysis of the Relationships Between Dental Hygiene Students in Group A and Group B and Their Patients

Group A vs. Group B Scores Measured by the Patient's Questionnaire

Hypothesis 3 stated that patient response scores, as measured by the Patient's Questionnaire, will be significantly higher for dental hygiene students in Group A than for dental hygiene students in Group B.

The Patient's Questionnaire was used as a measure of dental hygiene student-patient rapport. The questionnaire consisted of ten items that the patients were asked to respond to on a continuum-like scale of one to ten, from agree to disagree. A mean score was extracted from the total ten responses and represented the composite of the patient-dental hygiene student rapport, from the patient's point of view. The null hypothesis is that the mean difference between Group A and Group B is zero. (See Appendix III.) The findings of these comparisons are presented in Tables IX and X.

The mean for Group A was significantly higher than that of Group B, and the null hypothesis was therefore not retained. The stated Hypothesis 3 was accepted. The level of significance met the required level for confirmation of this hypothesis.

Therefore, Group A did obtain better scores on the Patient's Questionnaire than did Group B, following the training period.

TABLE IX

MEANS AND STANDARD DEVIATIONS FOR PATIENT'S QUESTIONNAIRE

Group	Mean	Standard Deviation
A	9.6533	0.1796
B	9.3687	0.4325

TABLE X

ANALYSIS OF VARIANCE OF PATIENT'S QUESTIONNAIRE SCORES, GROUP A AND GROUP B (1)

Source of Variance	Sum of Squares	Degrees of Freedom	Variance Estimate	F	p
Between	0.9719	1	0.9719	8.8595	0.0046
Within	5.0460	46	0.1097		
Total	6.0178	47			

Group A Senior's vs. Group B Junior's Scores Measured by the Patient's Questionnaire

Hypothesis 4 stated that patient response scores, as measured by the Patient's Questionnaire, will be significantly higher for the senior dental hygiene students in Group A than juniors in Group B.

The Patient's Questionnaire was used as a measure of dental hygiene student-patient rapport. The null hypothesis is that the mean difference between Group A seniors and Group B juniors is zero. The findings of these comparisons are presented in Tables XI and XII.

TABLE XI

MEANS AND STANDARD DEVIATIONS FOR PATIENT'S QUESTIONNAIRE

Group	Mean	Standard Deviation
A	9.6550	0.2004
B	9.2625	0.4074

TABLE XII

ANALYSIS OF VARIANCE OF PATIENT'S QUESTIONNAIRE SCORES BETWEEN SENIORS IN GROUP A AND JUNIORS IN GROUP B (1)

Source of Variance	Sum of Squares	Degrees of Freedom	Variance Estimate	F	p
Between	0.9243	1	0.9243	8.9658	0.0067
Within	2.2681	22	0.1031		
Total	3.1925	23			

The mean for Group A was significantly higher than that of Group B and the null hypothesis was not retained. The stated Hypothesis 4 was accepted. The level of significance met the required level for confirmation of this hypothesis. Therefore, Group A seniors did obtain better scores on the Patient's Questionnaire than did Group B juniors, following the training program.

Group A Senior's vs. Group B Senior's Scores Measured by the Patient's Questionnaire

Hypothesis 5 stated that patient response scores, as measured by the Patient's Questionnaire will be significantly higher for the senior dental hygiene students in Group A than for the senior dental hygiene students in Group B.

The Patient's Questionnaire was used to measure dental hygiene student-patient rapport. The null hypothesis is that the mean difference between Group A seniors and Group B seniors is zero. The findings of these comparisons are presented in Tables XIII and XIV.

Although the mean for Group A was higher than for Group B, the F ratio obtained was 1.6146 with an associated p of 0.2171. The level of significance did not meet the required level for confirmation of this hypothesis in the standard analysis of variance, and the null hypothesis was retained. Group A seniors did not obtain significantly better scores on the Patient's Questionnaire than did Group B seniors, following the training period and Hypothesis 5 was rejected.

TABLE XIII

MEANS AND STANDARD DEVIATIONS FOR PATIENT'S QUESTIONNAIRE

Group	Mean	Standard Deviation
A	9.6550	0.2004
B	9.4750	0.4478

TABLE XIV

ANALYSIS OF VARIANCE OF PATIENT'S QUESTIONNAIRE SCORES BETWEEN SENIORS IN GROUP A AND SENIORS IN GROUP B (1)

Source of Variance	Sum of Squares	Degrees of Freedom	Variance Estimate	F	p
Between	0.1944	1	0.1944	1.6146	0.2171
Within	2.6488	22	0.1204		
Total	2.8432	23			

Group A Junior's vs. Group B Junior's Scores Measured by the Patient's Questionnaire

Hypothesis 6 stated that patient response scores, as measured by the Patient's Questionnaire, will be significantly higher for the junior dental hygiene students in Group A than for the junior dental hygiene students in Group B. The findings of these comparisons are presented in Tables XV and XVI.

TABLE XV

MEANS AND STANDARD DEVIATIONS FOR
PATIENT'S QUESTIONNAIRE

Group	Mean	Standard Deviation
A	9.6516	0.1651
B	9.2625	0.4074

TABLE XVI

ANALYSIS OF VARIANCE OF PATIENT'S QUESTIONNAIRE SCORES BETWEEN JUNIORS IN GROUP A AND JUNIORS IN GROUP B (1)

Source of Variance	Sum of Squares	Degrees of Freedom	Variance Estimate	F	P
Between	0.9087	1	0.9087	9.4025	0.0057
Within	2.1262	22	0.0966		
Total	3.0349	23			

The mean for Group A was significantly higher than that of Group B, so the null hypothesis was not retained and the stated Hypothesis 6 was accepted. The level of significance met the required level for confirmation of this hypothesis. Group A juniors did obtain significantly better scores on the Patient's Questionnaire than did Group B juniors following the training period.

Analysis of the Data Utilized to Establish Validity and Reliability for the Patient's Responses Subjective Scales and Reliability and Validity for the Patient's Questionnaire

Patient's Questionnaire

Content validity was established before the study by a panel of judges at North Texas State University. The panel achieved unanimous agreement on all ten test items.

Test-retest reliability was established during the course of the study by computing a Pearson product moment correlation coefficient (2). The correlation coefficient obtained on the test - retest reliability procedure was .977, which established that the Patient's Questionnaire had very high reliability.

Patient's Responses Subjective Scales

Content validity was established before the study by a panel of judges at North Texas State University. The panel achieved unanimous agreement on all six test items.

Concurrent validity was established during the course of the study by computing a Pearson product moment correlation coefficient (2). The correlation coefficient obtained on the Pearson product moment correlation coefficient procedure was .445, which established only moderate concurrent validity for the Patient's Responses Subjective Scales with the Standard Communication Index. Downie and Heath say of criterion-related or concurrent validity, "These validity

coefficients tend to be much lower than reliability coefficients. An examination of the research over the years will show that they tend to fall within the band of .40 - .60" (1, p. 250).

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CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was a comparison of the effects of two training programs on dental hygiene students. It was designed to determine and evaluate the effects of a systematic training program in responding skills and dental professionalism on the subjects. There were two purposes to be served by this study. They were

1. To determine if a systematic training program in communication skills could be used to improve written response levels of dental hygiene students.

2. To determine if a systematic training program in communication skills could have improved dental hygiene student-patient rapport.

An extensive review of the literature related to the effectiveness of systematic human relations training and stated needs for training of this type from the dental hygiene profession supported the need for the kind of research study that was used here. Other studies in the literature called for this type of training to be incorporated within the dental hygiene formal training phase.

There were two phases of this study. The first phase was the formal training period. During the formal training

period, each of the two groups of subjects, randomly selected, received an intensive three hour block of study in their respective areas. The subjects were pre-tested immediately prior to the training and post-tested immediately following with the Standard Communication Index and the Patient's Responses Subjective Scales. In addition, the subjects were post-post-tested two weeks after the training programs.

The second phase involved the collection of patient samples on each dental hygiene student. An average of nine patients were tested for each student with the Patient's Questionnaire. The patients were again given the questionnaire at a later date to determine reliability of the instrument.

The major themes of the research hypotheses tested in this study were (1) a systematic training program in responding skills would increase written response levels; (2) systematic response training would improve dental hygiene student-patient rapport.

In the analysis of the data resulting from testing these hypotheses, the following findings were formulated:

Dental hygiene students in Group A did exhibit significantly higher levels of response on the Patient's Responses Subjective Scales than did those dental hygiene students in Group B, following the training period, which substantiated Hypothesis 1.

Dental hygiene students in Group A did exhibit significantly higher levels of response on the Standard Communication Index than did those dental hygiene students in Group B, following the training period, which substantiated Hypothesis 2.

Patient response scores, as measured by the Patient's Questionnaire, were significantly higher for dental hygiene students in Group A than for dental hygiene students in Group B, which substantiated Hypothesis 3.

Patient response scores, as measured by the Patient's Questionnaire, were significantly higher for the senior dental hygiene students in Group A than for juniors in Group B, which substantiated Hypothesis 4.

Patient response scores, as measured by the Patient's Questionnaire were not significantly higher for the senior dental hygiene students in Group A than for the senior dental hygiene students in Group B, which did not substantiate Hypothesis 5.

Patient response scores, as measured by the Patient's Questionnaire, were significantly higher for the junior dental hygiene students in Group A than for the junior dental hygiene students in Group B, which substantiated Hypothesis 6.

Dental hygiene students in Group A exhibited, on the post-post-test, significantly higher levels of response on the Standard Communication Index than did those dental hygiene students in Group B, which substantiated Hypothesis 7.

Dental hygiene students in Group A did exhibit, on the post-post-test, significantly higher levels of response on the Patient's Responses Subjective Scales than did those dental hygiene students in Group B, which substantiated Hypothesis 8.

Conclusions

The following conclusions, which are subject to the limitations of this study, are based upon the findings in the investigation:

1. It appears that the systematic training program in humanistic skills is an effective teaching device for improving dental hygiene responses.

2. The systematic training program seems to be an effective strategy for improving dental hygiene student-patient rapport.

Recommendations

1. A systematic training program such as the one used in this study should become an integral part of any dental hygiene training experience.

2. A similar study, using more extended training, should be conducted. Although this training program was successful, there was not sufficient time to do all the necessary experiential training.

3. More dental hygiene specific training materials need to be developed to include adequate revision of those instruments and materials utilized in this study.

4. More studies of this nature should be conducted with other health care auxiliaries.

APPENDIX I

PRACTICE STIMULUS STATEMENT
(Training)

Hygienist #1, stimulus #1

1. That really hurts. Sometimes I think that you dental people don't really think about what you're doing to people. I'll bet you would try to be more careful if you were sitting here and knew what it feels like to be treated like this.

Stimulus #2

2. My name is John and I have never had my teeth cleaned before. I'll bet there's really not much to it, is there?

Hygienist #2, stimulus #1

1. You're real nice and make me feel real good. I wish my husband would treat me with respect like you do. He's always yelling at me for the least little thing.

Stimulus #2

2. How much longer is this going to take: I have better things to do than sit here in this dental chair all day. A 20 minute wait to get in here and now one hour in the chair.

Hygienist #3, stimulus #1

1. I always wanted to be in the medical field but things just haven't worked out for me. I guess I better resign myself to being a waitress all my life. I don't guess it's in the cards for me to amount to anything.

Stimulus #2

2. I think you're really cute. I have always like women in the medical field. I think those white uniforms make you look real sexy.

APPENDIX II

TEXAS WOMAN'S UNIVERSITY
DEPARTMENT OF DENTAL HYGIENE
CURRICULUM REQUIREMENTS

Course Number	Course Title	Credit Hours	CLOCK HRS. PER WK. Lec.	Lab	Clinic
FRESHMAN YEAR:					
FALL SEMESTER:					
BIOL. 111&Lab.1111	Princ. Biology	4	3	2	0
CHEM. 1014	Gen. Chem.				
or. 1114	Chem. Princ. I	4	3	2	0
MATH 2113	Math	3	3	0	0
Eng. 1013	Comp. & Lit.	3	3	0	0
HEED 1372	Comm. Hlth. Ed.	2	2	0	0
HPER	Health Phys.Ed. & Rec.	1	1	0	0
	TOTALS:	17	15	4	0
SPRING SEMESTER:					
SPCH. 1013	Oral Communication	3	3	0	0
CHEM. 1024	Org. Phys. Chem.	4	3	3	0
SOCI. 1013	Intro. Sociology	3	3	0	0
ENG. 1023	Comp. & Lit.	3	3	0	0
HIST. 1013	Hist. of U.S.	3	3	0	0
HPER	Health Phys. Ed. & Rec.	1	1	0	0
	TOTALS:	17	16	3	0
SOPHOMORE YEAR:					
FALL SEMESTER:					
ZOOL. 2013	Anatomy & Phys.	3	2	2	0
ENG. 2013	Eng. Lit.	3	3	0	0
HEED 1751	First Aid	1	1	1	0
HIST. 1023	Hist. of U.S.	3	3	0	0
GOV'T 2013	Amer. Gov't	3	3	0	0
PSY. 1013	Gen. Psychology	3	3	0	0
	TOTALS:	16	15	3	0
SPRING SEMESTER:					
ZOOL. 2023	Anatomy & Phys.	3	2	2	0
ENG. 2023	Eng. Lit.	3	3	0	0
Gov't 2023	Amer. Tex. Gov't	3	3	0	0
BACT. 1004	Microbiology	4	3	2	0
NFS 2323	Nutrition	3	3	0	0
	TOTALS:	16	14	4	0

Academic Sequence of Course Presentation

Course Number		Credit Hours	CLOCK HRS. PER WK. Lec.	Lab	Clinic
JUNIOR YEAR:					
FALL SEMESTER					
DNTH 3111	Dental Orientation	1	1	0	0
DNTH 3113	Dental Anatomy	3	1	4	0
DNTH 3122	Head & Neck Anatomy	2	1	2	0
DNTH 3133	Gen. & Oral Histology	3	2	2	0
DNTH 3152	Dental Assisting	2	1	3	0
DNTH 3155	Dent.Hyg.Technic & Practice	5	2	6	0
DNTH 3182	Dental Radiology Tech I	2	1	2	0
	TOTALS:	18	9	19	0
SPRING SEMESTER					
DNTH 3112	Periodontics I	2	2	0	0
DNTH 3123	Gen & Oral Pathology	3	2	2	0
DNTH 3132	Dental Materials	2	1	3	0
DNTH 3143	Preventive Dentistry	3	2	2	0
DNTH 3163	Dental Health Education	3	3	0	0
DNTH 3174	Dental Hygiene Clinic I	4	0	0	12
	TOTALS:	17	10	7	12
SENIOR YEAR:					
FALL SEMESTER					
DNTH 4111	Dental Hygiene Seminar I	1	1	0	0
DNTH 4131	Community Dental Health	1	1	0	0
DNTH 4142	Pharmacology	2	2	0	0
DNTH 4155	Dental Hygiene Clinic II	5	0	0	15
DNTH 4242	Dental Technical Science	2	2	0	0
	electives--(Minor)	6	6	0	0
	TOTALS:	17	12	0	15
SPRING SEMESTER					
DNTH 4121	Dental Hygiene Seminar II	1	1	0	0
DNTH 4141	Practice Management	1	1	0	0
DNTH 4161	Ethics & Jurisprudence	1	1	0	0
DNTH 4165	Dental Hygiene Clinic III	5	0	0	15
DNTH 4192	Dental Radiology Tech.II	2	1	2	0
	electives--(Minor)	6	8	0	0
	TOTALS:	16	12	2	15

APPENDIX III

(STANDARD COMMUNICATION INDEX)

Your role here is that of a counselor who is trying to be as helpful as possible to his clients. After reading each of the attached client statements, you are to write down exactly what you would say to this person if you and he (she) were speaking directly and in person to one another.

Since these eight client statements are not related to each other, your responses should also be independent of one another.

Remember, is is crucial that you write down, as clearly and as accurately as possible, precisely what you would say in response to each client statement.

Write your response directly below each excerpt.

Client Responses

Excerpt 1

Client

I don't know if I am right or wrong feeling the way I do. But I find myself withdrawing from people. I don't seem to socialize and play their stupid little games anymore. I get upset and come home depressed and have headaches. It seems all so superficial. There was a time when I used to get along with everybody. Everybody said, "Isn't she wonderful. She gets along with everybody. Everybody likes her." I used to think that was something to be really proud of, but that wasn't who I was at that time. I had no depth. I was what the crowd want me to be--the particular group I was with.

Excerpt 2

Client

It's not an easy thing to talk about. I guess the heart of the problem is sort of a sexual problem. I never thought I would have this sort of problem. But I find myself not getting the fulfillment I used to. It's not as enjoyable--for my husband either, although we don't discuss it. I used to enjoy and look forward to making love. I used to have an orgasm but I don't anymore. I can't remember the last time I was satisfied. I find myself being attracted to other men and wondering what it would be like to go to bed with them. I don't know what this means? Is this symptomatic of our whole relationship as a marriage? Is something wrong with me or us?

Excerpt 3

Client

Gee, those people! Who do they think they are? I just can't stand interacting with them anymore. Just a bunch of phoneys. They leave me so frustrated. They make me so anxious, I get angry at myself. I don't even want to be bothered with them anymore. I just wish I could be honest with them and tell them all to go to hell! But I guess I just can't do it.

Excerpt 4

Client

He is ridiculous! Everything has to be done when he wants to do it. The way he wants it done. It's as if nobody else exists. It's everything he wants to do. There is a range of things I have to do. Not just be housewife and take care of the kids. Oh no, I have to do his typing for him, errands for him. If I don't do it right away, I'm stupid. I'm not a good wife or something stupid like that. I have an identify of my own and I'm not going to have it wrapped up in him. It makes me--it infuriates me! I want to punch him right in the mouth. What am I going to do. Who does he think he is anyway?

Excerpt 5

Client

I'm really excited! We are going to California. I'm going to have a second lease on life. I found a marvelous job. It's great! It's so great, I can't believe it's true, it's so great. I have a secretarial job. I can be a mother and can have a part time job which I think I will enjoy very much. I can be home when the children get home from school. It's too good to be true. It's exciting. New horizons are are unfolding. I just can't wait to get started. It's great!

Excerpt 6

Client

I'm so thrilled to have found a counselor like you. I didn't know any existed. You seem to understand me so well. It's just great! I feel like I'm coming alive again. I have not felt like this in so long.

Excerpt 7

Client

Gee, I'm disappointed. I thought we could get along so well together and you could help me. We don't seem to be getting anywhere. You don't understand me. You don't know I'm here. I don't even think you care for me. You don't hear me when I talk. You seem to be somewhere else. Your responses are independent of anything I have to say. I don't know where to turn. I'm just so, doggone it, I don't know what I'm going to do, but I know you can't help me. There just is no hope.

Excerpt 8

Client

Who do you think you are! You call yourself a therapist, Damn, here I am spilling my guts out to you and all you do is look at the clock. You don't hear what I say. Your responses are not attuned to what I'm saying. I never heard of such therapy. You are supposed to be helping me. You are so wrapped up in your world you don't hear a thing I'm saying. You don't give me the time. The minute the hour is up you push me out the door whether I have something important to say or not. I ah-it makes me so god-damn mad!

(PATIENT'S RESPONSES SUBJECTIVE SCALES)

Your role here is that of a hygienist who is trying to be a helpful as possible to her patients. After reading each of the attached patient statements, you are to write down exactly what you would say to this person if you and he (she) were speaking directly, and in person to one another.

Since these six patient statements are not related to each other, your responses should also be independent of one another.

Remember, it is crucial that you write down, as clearly and as accurately as possible, precisely what you would say in response to each client statement.

Write your response directly below each excerpt.

EXCERPT I

Patient:

I have a really sensitive mouth and I've already told you twice that all the probing hurts me. Is it really necessary? I don't think so. Take it easy will you please.

EXCERPT II

Patient:

You really did a great job on my teeth today. I really appreciate the good wok you do. I'll bet there isn't a hygienist alive as good as you. It just makes you feel good all over to have such a clean mouth.

EXCERPT III

Patient:

You look so nervous. Don't worry; I've had lots and lots of doctors and dentists work on me, and they all tell me I'm a model patient. I'll make up for your nervousness.

EXCERPT IV

Patient:

I'm really sorry; this is so embarrassing. I never, ever cry. I just don't know what's the matter with me. It really didn't hurt all that much.

EXCERPT V

Patient:

What do you mean I ought to go see a dentist about my teeth? I've never had anyone tell me before that I had bad teeth. I think you have some nerve, just being an assistant and all. I probably know as much as you do about teeth.

EXCERPT VI

Patient:

Do you know any good doctors around here? I'm new here, and I have a very special and private kind of problem. I need to talk to someone about my condition, but I just don't know anyone I can trust. People always gossip, you know.

PATIENT'S QUESTIONNAIRE

The following series of questions is designed for a follow-up on your dental hygienist in the areas of communication and professionalism. Please answer all items on the questionnaire as honestly as possible. The answers you give are completely confidential and will be used in coordination with a study being conducted by North Texas State University.

Circle the number that most correctly answers each item for you.

1. I felt comfortable with my dental hygienist.

disagree agree

1 2 3 4 5 6 7 8 9 10

2. My dental hygienist seemed to me to be competent.

disagree agree

1 2 3 4 5 6 7 8 9 10

3. My dental hygienist did not make me feel at ease.

disagree agree

1 2 3 4 5 6 7 8 9 10

4. My dental hygienist did not seem to be interested in me.

disagree agree

1 2 3 4 5 6 7 8 9 10

5. I would like to have this dental hygienist again.

disagree agree

1 2 3 4 5 6 7 8 9 10

6. I would not recommend this dental hygienist to my friends.

disagree agree

1 2 3 4 5 6 7 8 9 10

7. I would like to have my hygienist as a friend.

disagree agree

1 2 3 4 5 6 7 8 9 10

8. My dental hygienist did not communicate well.

disagree agree

1 2 3 4 5 6 7 8 9 10

9. My hygienist showed concern for me as a person

disagree agree

1 2 3 4 5 6 7 8 9 10

10. I would prefer to have a licensed hygienist instead of a student.

disagree agree

1 2 3 4 5 6 7 8 9 10

I have voluntarily agreed to participate in this study;

_____
signature

_____
address

_____
telephone number

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