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An experiential and a traditional approach in preparing teachers

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An experiential and a traditional approach in preparing teachers

by

Dwayne Gustav Olsen

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CHAPTER I. INTRODUCTION

A recent trend in research on teaching has been toward examining teacher attitude and the effect of such attitudes on pupils. Various writers attest to the importance of teacher attitude and its consequent effect on what the individual does as a teacher (44, 65, 106). Smith, Cohen, and Pearl (107) were led to conclude that teacher attitudes are ". . . too important to leave the shaping of them to the accidents of human associations or to the interests of individual instructors. . ." (p. 92).

At the same time, extensive research and analysis of teaching has brought about considerable change in professional education courses at the undergraduate level. Through a variety of new instructional techniques, emphasis has continued to be placed on certain cognitive knowledge needed by teachers. In addition, affective learning has also been emphasized (21, 129). In one way or another, these new techniques were, in theory, designed to develop actual teaching skills, knowledge, or changed attitudes toward teaching and pupils, or both.

One of the major concerns of educational psychologists has been the emotional and social adjustment of pupils in the school setting (44). Concern for the uniqueness of the development of each individual is of greatest importance in education according to humanistic psychologists (81). In terms of the activities of teachers, this philosophy emphasizes the necessity for teachers to develop skills which promote their humanizing influences and functions with particular concern for interaction and interpersonal relationships between teachers and pupils as well as teachers and their colleagues. In order to function in such a manner, teachers must

develop skills involving sensitivity to the feelings and needs of those with whom they interact while carrying out the instructional mission of the classroom (32). Research studies need to be designed which determine: 1) Are there particular skills, characteristics, or attitudes in this humanistic area? 2) If so, can such be developed in a teacher training program? and 3) Are such skills, characteristics, and attitudes, once learned, transferred to teaching activities in terms of changed behavior?

Teachers' conceptions of their roles can be influenced extensively as demonstrated by the fact that ". . . teachers from one college differ markedly in such conceptions from those trained at another college with a different orientation toward the teacher's role" (44, p. 147). Teacher educators, then, should begin to develop teacher education programs which make it possible for the future teacher to become aware of his attitudes. In addition, the teacher training program should provide the student opportunities to learn about sensitivity to others and interpersonal relationships together with opportunity to think about and practice change behaviors (76, 106).

Two basic approaches for changing teacher attitude are through information input and through experience (78). Human relations training has been developed as one technique to bring about change in teachers' attitudes, usually via a combination of experiences and information input within a laboratory setting. Assessment of the results of human relations training presented in the literature has been difficult, if not impossible, because of the meager detail on the type of training involved. Such a situation has also precluded replication of the research.

A solution to determining the results of human relations training in terms of change in participants may be available in structured human relations laboratories which have been developed for use in teacher education programs.

Previous evaluations of structured human relations laboratories in teacher education have usually focused on whether the teacher-in-training liked the experience or the appropriateness of the organization of the laboratory (1, 67, 68). Unfortunately, there has been only a limited amount of empirical research on such laboratories in an effort to determine what, if any, changes occurred in the knowledge, skills, attitudes, or behavior of the participants.

The Problem

In order to intelligently revise teacher education programs, teacher educators need to know if changes in attitude and behavior result from a structured human relations laboratory which emphasizes interpersonal communication skills and group processes. Thus, this study focused on how to prepare teachers, with particular emphasis on the development of attitudinal and behavioral change as a result of participating in an education course. More specifically, the purpose of this study was to consider whether participation in a human relations laboratory in a pre-service teacher education program altered interpersonal communication in groups, individual self-perception, beliefs about the educative process, attitudes toward courses, verbal behavior in a teaching setting, and behavior in interpersonal situations.

The research hypothesis was: Education students who participate in a structured human relations laboratory will demonstrate attitudes and behaviors which are significantly different from those of students trained in a traditional approach to a general methods course.

Specific hypotheses derived from the research hypothesis were:

1. The level of interpersonal communication will be significantly higher for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

2. Self-perception will be significantly different for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

3. Beliefs about the educative process will be significantly different for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

4. Attitude toward a general methods course will be significantly more favorable for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

5. Verbal behavior in the microteaching setting will be more indirect (include more of the type of teacher behaviors which encourage pupil participation in the activities of the classroom) for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

6. Behavior in interpersonal situations will be significantly different for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

CHAPTER II. REVIEW OF THE LITERATURE

Introduction

Chapter II presents a general review of the literature in three areas of sensitivity-human relations training which are appropriate to this study. In the first area of review, the writer attempted to define the field, its objectives, and present several models which have been developed in an effort to understand the various approaches to sensitivity-human relations training. The second area of review presents structured human relations training programs which were available together with sources of individual exercises which could be organized to form a structured human relations training program. The third aspect of the review of literature focused on research in the area of sensitivity-human relations training. Because of the limited number of studies available, the review will include research in pre-service and in-service teacher education as well as elementary and secondary teacher education.

Gazda and Peters (45) in a recent review of research identified three categories of group procedures. These were group counseling, group psychotherapy, and human relations (laboratory) training. The last two aspects of the present review will be restricted to the third category of group procedure, human relations (laboratory) training, as this was the area directly related to the present study.

General Review on Sensitivity-Human Relations Training

The general review on sensitivity-human relations training was an effort to define the field and its objectives. Also presented in this

review will be several models which have been developed in an effort to relate the variety of approaches in the sensitivity-human relations field to one another.

Sensitivity training is ". . . one approach for facilitating the development of human relations understanding and skills. . ." (117, p. 119). Sensitivity training is experiential, here-and-now learning which usually involves a small group of persons (from five to fifteen) in order that all members might participate in the unstructured discussion (76, 93, 104, 117). Other activities frequently involved in sensitivity training besides group discussion are role playing, simulation exercises, nonverbal experiences, case studies, related general sessions, intergroup exercises, theory presentations, film presentations, supporting readings, and various approaches to evaluation of what has taken place (14, 76, 104, 117, 123). All of these activities are designed to further explicate the points made in discussion.

The group frequently selects its own agenda, content, and goals as well as its rules of operation (76, 93). The leader of the group is the trainer. His role is that of facilitating the group in reaching its goals as well as one of providing additional help in analysis or feedback as needed (76).

Behavioral and affective elements frequently included in such groups are: a climate of psychological safety, expressions of immediate feelings, development of mutual trust, less inhibition by defensive approaches, listening to one another, the emergence of new directions, carry over of learning into relationships outside the group, and feedback (9, 93). Feedback is particularly important to the learning process in that

> . . . taboos of ordinary society are reversed: frankness substitutes for tact, self-expression for manners, nonverbal techniques for language, and immediacy for responsibility. Norms that have evolved to ensure the smooth and continual operation of society are rejected. The newly adopted standards of behavior are conducive to a strong emotional inpact. . . (9, p. 31).

"Sensitivity training as a human relations training technique has numerous relatives, such as group psychotherapy, counseling, T-group training, and didactic teaching about human relations" (117, p. 238). Birnbaum indicated that among the various approaches used in sensitivity training are a variety of ". . . laboratory training approaches in human relations, group dynamics, organizational development (or . . . applied human relations training), as well as a number of verbal and nonverbal experiences that seek to increase awareness and release human potential. . ." (9, p. 52). Other relatives of sensitivity training are various ". . . forms of group dynamics, autocriticism, basic encounter groups, self-honesty sessions, self-examination, and human potential workshops" (55, p. 1131).

The foregoing approaches to learning in a group are defined as laboratory learning (also referred to as laboratory training or laboratory education). Laboratory learning then encompasses not only the basic discussion group (the T-group) but also some of the additional activities mentioned above such as role playing and theory presentations (25, 48, 96).

The objectives of the varied forms of laboratory learning can be broadly categorized as intellectual, emotional, and behavioral (30). Specifically these objectives were identified by various writers as the individual learning: 1) about himself with particular emphasis on his feelings; 2) about his impact on others; 3) about others; 4) about interpersonal relations and interpersonal needs; 5) to be more open with others;

6) to be more acceptant of others; 7) to listen more attentively for meaning and feeling; 8) different attitudes, values, and behavior; 9) group processes; 10) a particular method of learning and inquiry; 11) various diagnostic skills which could be used as appropriate; and 12) methods of enhancing interpersonal growth (9, 25, 29, 48, 55, 64, 75, 96, 97, 114, 117, 124). Broadly speaking the forms of laboratory training in human relations as applied to preparation of persons to function in the helping professions, such as teaching, ". . . is a process of providing certain kinds of learning experiences within a small group in such a way that they learn to facilitate the positive and constructive development of other individuals with whom they interact. . ." (114, p. 1).

Investigators have tried to organize the variety of "sensitivity-human relations training" experiences into conceptual schemes in order that the various approaches might be understood and differentiated from one another. The variety of such approaches, at least in name, has made this task particularly difficult. Harrison indicated that "Researchers have yet to agree upon a scheme for classification of laboratories according to design ..." (54, p. 80). This does not mean that attempts have not been made to develop such schemes. Several are presented in an effort to indicate the present state of this field.

A scheme which indicates the variety of approaches available is that of Gibb (46). In an effort to distinguish between the types of group experience, Gibb identified ". . . ten theory-and-practice clusters [which] can be identified as most prevalent. . ." (p. 3) with the caution that there is much overlap among categories. These are: 1) sensitivity experiences; 2) authenticity experiences; 3) creativity-release experiences; 4) pro-

grammed experiences; 5) imbedded experiences; 6) religious experiences; 7) motiviation shift experiences; 8) cognitive shift experiences; 9) depth therapy experiences; and 10) emergent or interdependent experiences.

Howard (63) suggested that were the sensitivity-human relations training area considered as a triangle, the sides would be the approaches of the National Training Laboratories, Esalen [the California movement in Back's terms], and Synanon, the last of which was defined as ". . . a much-imitated 'therapeutic community' whose self-help groups (called 'Games' and originally meant just for drug addicts) are now popular in some cities among the general public. . ." (p. 21).

Goodstein (49) indicated that there were several dimensions along which intensive group experiences have developed, though these dimensions were not necessarily independent.

> Group dynamics versus an individual self-awareness focus . . . . 'Here-and-now' versus a 'there-and-then' focus. . . An affective versus a cognitive focus. . . Broad versus narrow focus. . . A narrow focus often involves an interest in rather specific skills development [sic]. . . The planned use of structured exercises . . . The nature of the participant group. . . The theoretical predilections of the group facilitator. . . (pp. 51-52).

Harrison (54) identified differences in human relations training based on depth of personal involvement going from shallow to deep. This writer also saw movement in human relations training ". . . from a normative approach focused on the development of the democratic decision-making group to a concern with <u>individual growth</u> as the desired outcome. The latter position focuses on the receiving of feedback as the basic learning process in laboratory training. . ." (54, p. 78).

In an effort to identify the variants of sensitivity training and encounter, Lomranz et al. (77) used a questionnaire together with an exer-

cise which required evaluation of interaction scenarios in terms of preferred goals, values, interventions, and demographic indicators. One hundred thirty-eight experienced group leaders were the respondents. These investigators used factor analysis and multiple discriminant analysis to find three distinct and highly interpretable groups: ". . . those concerned with learning, remediation (therapy), or expanded experiencing. . ." (p. 399). These writers concluded that "It would appear that despite an initial common core of ideas and practices and common sources in ideology and philosophy, current training and encounter groups were so diverse--particularly in application and practice--that unifying principles and themes are obscured" (pp. 414-415).

Back (10) suggested three approaches for categorizing the various kinds of sensitivity-human relations training. These categorizations are organized around the theoretical base for the approach, the function of the training, and the use of the training. The three prominent theoretical bases of sensitivity training are found in the National Training Laboratory (NTL) at Bethel, Maine, the Tavistock Institute in London, and that centered in California. The focus of NTL is balanced between concern for individual participation and group functioning while the focus at Tavistock is on the functioning of the group as a unit. The focus of the California group is on ". . . enhancement of some capacities presumably inherent in the individual through the medium of group experience. . ." (p. 134). These orientations to sensitivity training could be placed on a continuum with Tavistock on one end with its orientation to the group, the California movement on the other with its orientation to the individual, and the NTL approach falling somewhere in the middle.

In classifying the varieties of sensitivity training according to the function which each served and the depth of the training involved to reach that function, Back indicated that

> The experience may have a temporary superficial effect, or aim at deep, long-range change. A similar distinction may be discerned in the social situation in which the training is being conducted. Sensitivity training may be an activity in its own right or it may be a part of a larger program used as an adjunct to the other activities. . . (10, p. 134).

The cross-classifications resulting here are: 1) deep effect - independent program; 2) shallow effect - independent program; 3) deep effect - integrated program; and 4) shallow effect - integrated program.

The third approach to classifying the varieties of sensitivity training identified by Back was based on the use of the activity. These uses are ". . . psychotherapy, personnel management, training of human relations, adaptation of new techniques, and entertainment. . ." (10, p. 135).

Perhaps the most comprehensive scheme was that presented elsewhere by Back (9) and which seemed to be a synthesis of his previous ideas. The eight types of experience presented in the scheme were derived from various combinations of three aspects of sensitivity training identified by Back: goals, strength, and level of input. In addition there were other social activities which were similar to each of the eight approaches to sensitivity training. Back indicated that "Inclusion of these 'neighboring' activities shows to what parts of society sensitivity training is related and . . . locates our map of sensitivity training in the landscape of society" (9, p. 121).

Figure 1 presents the scheme developed by Back. The eight types of sensitivity experience are labelled "A" through "H." The letters "A'"

through "H'" identify similar activities which do not involve sensitivity training. According to Back, the boundaries between these fields are quite indefinite and continually shifting. In addition, some of the programs derived from sensitivity training could be found crossing several of the squares on the table, depending on the activities involved.

The cells G and H of the scheme are areas of weak impact with instrumental goals which are more practical as well as being of an intellectual nature. In these areas are programs which include techniques designed as ". . . part of a definite program, either personnel management, training, teaching, or organizational development. . ." (9, p. 123).

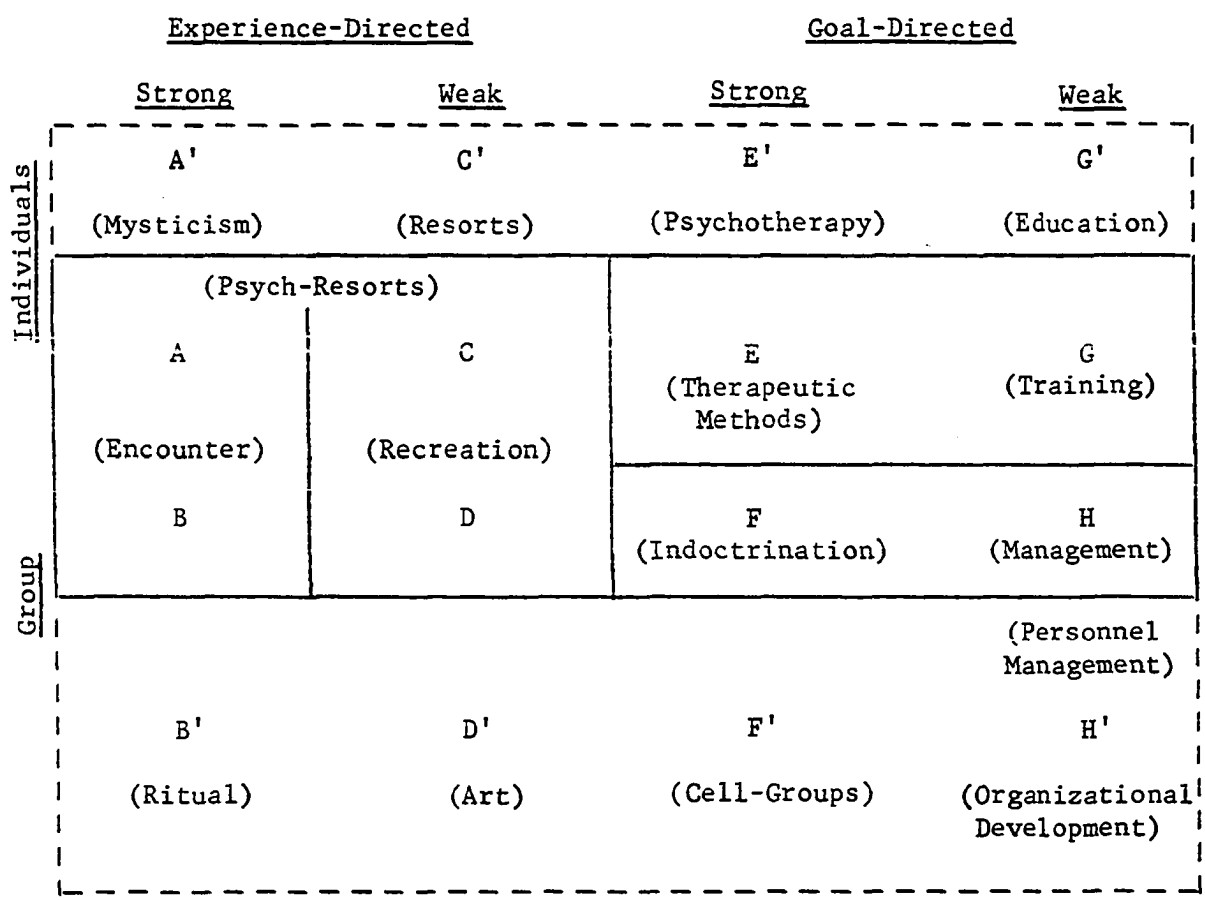


Figure 1. A scheme of sensitivity and related experiences (9, p. 122)

In summing up his discussion of the different approaches to sensitivity training, Back concluded that "A common core [in the sensitivity training movement] is more felt than understood. . ." (9, p. 137).

General Review on Structured Human Relations Training

Experiential activities for use in the various approaches to human relations training were quite prominent in the literature. Some of these activities have been combined into structured human relations training programs for a particular audience.

There were several reasons for developing structured activities and laboratories in human relations training. The structured approach allowed those with limited training or limited group process skills to direct such learning activities. This in turn made human relations training available to more individuals. Such an approach also made replication of the laboratory possible and thus provided opportunity for better empirical research which in turn could lead to modification and consequent improvement of the laboratory.

The availability of individual structured human relations activities also made it possible for those who were involved in human relations training to develop new programs or to modify ongoing programs. Individual structured human relations exercises also make it possible for teachers to use the experiential mode for instruction in combination with more traditional approaches.

In this review on structured human relations training, the aspect of individual structured human relations activities will be briefly examined. This will be followed by a review of structured laboratories in human rela-

tions training which have been developed and used particularly in the field of teacher education.

Schutz (100) presented various experiential activities drawn from psychotherapy, human relations training, and the arts (particularly drama and dance) for achieving greater human potential. Methods were also presented designed to enable the individual to practice the three elements of Schutz's Fundamental Interpersonal Orientation theory (inclusion, control, and affection).

A volume of "reality games" has been developed by Sax and Hollander (95). Major divisions of these games include basic communication skills, games which emphasize spontaneity and self-expansion through role play, nonverbal and physical games, and transcendental games and communication activities especially for those in the helping professions.

Otto (89) developed a series of activities which could be used by an individual, with a partner, or in a group for people ". . . who are interested in bringing to light their own potentialities and putting these to work in their lives. . ." (p. 3). Gunther (52) presented a series of "experiments" designed for individuals, couples, or groups. These experiments were intended to make the individual more conscious of his senses, more balanced between mind and body, and give the individual a deeper sense of his own being.

Exercises used by Russell (94) in encounter groups were divided into three categories.

> The first set of exercises . . . are [sic] designed as introductory warmup or entry exercises which tend to set the mood for the group and yet avoid personal disclosure. The second set . . . are [sic] exercises that encourage self-disclosure and feedback.

> The third set . . . may be selected to focus on a specific problem or theme in the development of the group (p. 28).

Malamud and Machover (79) developed a "Repertoire of Group Experiments" designed to make it possible for the group leader to direct group learning in a variety of ways, i.e. verbal approaches, motoric activities, exploring experiences of youth, or here-and-now activities.

A series of exercises called PSLE's (psycho-social learning experiences), designed for the purpose of helping people overcome reliance on game playing, have been developed by Stokley and Perlmutter (111). Twenty exercises were presented which could be used to build a human relations workshop focusing on the kinds of interaction available and the topics or issues which most frequently arise in workshops.

In summary, several generalizations can be made about the individual structured human relations activities which were available. These are:

1. Many were group activities which involved a group leader although some were designed for use by individuals or partners.
2. Many were experiential in nature and involved participation in activities and sharing with others reactions to those activities.
3. Many were designed to be used as the group leader determined appropriate in order to reach the goals of the training experience.
4. In several, learning was directed toward affective objectives with particular emphasis on self-knowledge although some of the activities included cognitive and psychomotor learning.
5. Many were divided into categories so that the user knew their broad purpose.

6. Many involved here-and-now activities though there were activities which emphasized experiences in the past.
7. Some developers of these activities indicated the activities could be combined into a human relations workshop.
8. Sources of these activities were psychotherapy, group counseling, the arts, and human relations training.

Structured programs which have been developed and used in the area of human relations training in education were more limited than sources of individual structured human relations activities. Included here are those described more extensively in the literature.

Berzon et al. (13) summarized their efforts in developing structured materials for self-directed groups with particular concern for the area of vocational rehabilitation. Revisions of their programs have reduced the numbers of sessions, provided leadership via audiotaped directions, and increased the emphasis on experiential learning.

The third program by Berzon et al., titled "Planned Experiences for Effective Relating" (PEER), was developed to ". . . provide a higher payoff in learning experiences for participants whose vocational problems have a broad social and/or emotional base and to give the program wider applicability in the counseling and rehabilitation fields" (13, p. 217). These researchers saw the possibility of developing "custom programs" directed toward the problems or concerns of particular groups, including educators.

Schmuck et al. (99) developed a handbook as

> . . . a guide to planned actions for facilitating human responsiveness and adaptability in school organizations. It has been written for people acting to make schools places in which people can find joy in working, relating, and learning. We hope it will be used to produce schools that are effective in broadening

> humanistic awareness and skills and in heightening the capabilities of both students and professional educators. We hope it will be used not merely to streamline the functioning of traditional schools, but to build organizational structures through which new heights of freedom and understanding can be boldly sought (p. xiii).

Carkhuff (26, 27) has developed a special type of human relations training which is finding particular favor in group counseling circles. It has been used as the basis for one structured human relations program designed especially for teacher education (72) and another program appropriate in teacher education as well as other helping professions (114, 115).

A relatively brief structured program modeled after the ideas of Carkhuff was that of Kurpius (72) entitled "Developing Teacher Competencies in Interpersonal Transactions." In this program, ". . . three elements of communication [are presented] which seem most significant in most all human interaction. These three are the ability to listen and respond with empathy, respect, and concreteness. . . ." (p. 260). The ultimate goal of the program was to help the teacher education student to develop these skills.

Sydnor, Akridge, and Parkhill (114, 115) have developed a structured program in human relations training designed for those who work in the helping vocations. These group activities were designed to follow individual use of programmed instruction (115) which presented basic cognitive information about the helping relationships based on Carkhuff's model.

A structured program entitled "Interpersonal Communications," based upon activities of the National Training Laboraotries, has been developed by Jung et al. (67). This was probably the most extensive structured human

relations laboratory available in teacher education. The units of the program focused specifically on paraphrasing, describing behavior, describing feelings, nonverbal communication, feedback, and various other aspects of communication.

Ivey et al. (66) reported on Human Interaction, a curriculum in human relations which involves ". . . a behavioral frame of reference, whose primary objective is the development of teachers who can act freely and spontaneously--with intentionality. . ." (p. 2). This curriculum was based on material from human relations programs, sensitivity training, and behavioral psychology and was designed to ". . . provide a systematic, graduated set of human relations exercises which facilitate personal growth while avoiding invasion of personal privacy" (p. 2).

The Teachers' Educational Process Workshop, whose objective was to help inservice teachers acquire insight into classroom dynamics via an experiential approach without revealing personal life, was described by Winick et al. (131). The goal was to deepen teachers' perceptions and to lead to better understanding of their students.

Dinkmeyer (35) and Dinkmeyer and Muro (36) described an approach known as the "C-Group" which grew out of a need for providing inservice education with personal involvement and an opportunity to test new ideas and exchange with colleagues the results of new approaches. The approach differed from the T-group because it went beyond focusing on the self or the group process involved to ". . . examination of the transaction between teacher and child and the application of specific procedures. It also confronts the teacher with the ways in which her attitudes and feelings may keep her from

changing [in] a process which combines the didactic and experiential. . ." (36, p. 272).

In summary, the following generalizations are presented relative to the structured programs in human relations training which were available for professional education:

1. The number of such programs available and designed specifically for teacher education was limited.
2. There were some programs designed for areas such as counselor education or vocational rehabilitation which seemed appropriate, with limited modification, in teacher education.
3. The programs which were available were appropriate for both pre-service and in-service education.
4. Some of the programs had been extensively revised.
5. All but one of the programs required a leader though that leader did not need to be extensively trained.
6. The programs seemed to be oriented toward affective learning goals more than cognitive or psychomotor learning.
7. None of the programs was designed to provide a deep sensitivity-training experience; most, if not all, of these structured human relations training programs would be found in the "training" area of Back's scheme for organizing sensitivity and related experiences (see Figure 1, p. 12).

General Review on Research in Sensitivity-Human Relations Training

This aspect of the review of literature focused on research in sensitivity-human relations training. As was indicated, the review reports

research in both pre-service and in-service teacher education as well as both elementary and secondary teacher education.

Pre-service teacher education

Several studies reported involved sensitivity-human relations training for pre-service education in conjunction with student teaching. Webb (125) reported the results of a study in which elementary education students were measured on various attitudes and behaviors. The results indicated no significant difference in evaluation criteria in the directions hypothesized. Despite the lack of statistical differences, the vast majority of the students said the experience was helpful in enhancing self-confidence and similar qualities.

Borke and Burstyn (18) reported the effects of a seminar in interpersonal relations for student teachers. Though no empirical data were gathered, the investigators concluded that

> In this short period [of student teaching], seminar members established relationships with their classes and developed an understanding of individual students that teachers seldom acquire without years of experience. Some student teachers reported dramatic changes of attitude that affected their behavior outside as well as inside the classroom (p. 378).

The effects of a human relations training program on the performance of elementary student teachers in the classroom were reported by Berenson (12). This researcher concluded that ". . . the experimental subjects were rated significantly higher in interpersonal functioning, were rated by their college and classroom supervisors as more competent in the classroom, scored significantly higher on a situation reaction test, and utilized significantly more positive reinforcing behaviors in their teaching" (p. 83).

Dobson and Hawkins (37) examined female student teachers' perceptions and treatment of behavior problems in elementary children after sensitivity training. Results indicated no significant difference between groups in perception or treatment of behavioral problems in general but that there was some difference in perception of behavior problems in relation to socio-economic status of schools.

A study by Hough and Amidon (61) combined a human relations experience for secondary student teachers with interaction analysis. Results indicated that experimental student teachers were significantly more effective in terms of the results on the observational measures. The data also indicated that the experimental subjects became significantly more empathic in their relationships with students while the controls made no change. In addition, change scores relative to teaching situations in relation to dogmatism showed a significantly positive relationship only for those subjects in the experimental group. In comparing the ten subjects in the experimental and control groups with dogmatism scale scores below the mean, the data indicated significant change only for those in the experimental group. The investigators concluded that, "The findings of this study seem to indicate that the combination of experiences provided for the experimental group [taking into consideration design limitations] was effective in that it had the predicted effect on the behavior of student teachers on the changes in attitudes and understandings associated with effective teaching. . ." (p. 313).

The following studies reviewed involve pre-service subjects who were not in a student teaching situation. Maxey (82) measured effects of interaction analysis training and sensitivity training on verbal teaching behav-

ior of pre-service teachers. Observed data on behavior in simulated teaching were collected four times. Between teaches two and three, one group received sensitivity training and the other training in interaction analysis. Between teaches three and four, the treatments were reversed. Maxey concluded that interaction analysis training influenced change in the subjects' verbal teaching style, sensitivity training had little or no influence on verbal teaching style, and that interaction analysis training by itself is as effective as a combination of both sensitivity training and interaction analysis training.

In a study designed ". . . to test the effect on verbal teaching behavior of (a) three methods of teaching human relations skills, and (b) two methods of teaching pre-service teachers to analyze and control their verbal teaching behavior", Hough and Ober (62, p. 331) concluded that subjects who had been taught interaction analysis tended to use more categories of indirect influence in their simulated teaching. Subjects who were in treatments in which no formal system for categorizing verbal behavior was presented tended to use more direct influence in their simulated teaching. For subjects who were in human relations training approaches, there were, in general, no overall changes. The most interesting finding of the study was that the group which received both interaction analysis and dyadic human relations training made significantly greater use of accepting or using students' ideas.

Two extensive studies which compared various approaches to teaching human relations were those of Calliotte and Thorman. Calliotte (23) reported the results of comparing four approaches in an effort to determine the best form for a human relations component in a teacher education pro-

gram. The four approaches involved basic encounter, a cognitive approach, a programmed approach, and an integrated approach. The effect of the encounter experience on the subject's personality and the effect on warmth, empathy, genuineness, and concreteness in relationships with students indicated no significant differences on the personality variables.

No empirical evaluation was used by Calliotte in assessing the effect of the cognitive approach. It was the feeling of the staff involved that the subjects understood and accepted the ideas which were presented and emphasized ". . . constructive use of feelings and emotions and understanding communication processes. . ." (p. 6). However, Calliotte indicated that he felt such experiences weren't integrated into subjects' attitudes and behaviors.

The programmed approach was used by Calliotte on groups of volunteers. No empirical data were gathered. Pre-service teacher education students had positive reactions to the course and encouraged its inclusion in the teacher education program. A majority of the noncertified teachers in a summer course felt they had internalized the concepts of the programmed instruction, and one-third said they hadn't. All of these latter subjects supported the idea of including an interpersonal relations component in the teacher education program.

Calliotte also used an integrated model, a five-week unit based on an experiental learning process. Results indicated that this was the most successful approach in bringing ". . . about an increased level of awareness and sensitivity to interpersonal processes. . ." (p. 10). Subjects' scores increased on three of four variables considered important to the goals of the proposed human relations component. Six of the eleven remain-

ing variables measured indicated statistically significant change. Student response to the integrated model was overwhelmingly positive.

The second study comparing several approaches to human relations training was that of Thorman (121). The three approaches evaluated were academic study (writing a term paper on human relations), field experience (working with high school students in various activities), and a T-group laboratory. Self-report data indicated that the T-group subjects were significantly higher on perception of the treatment in terms of level of interest, amount learned, behavior toward others, and feelings toward others. The T-group was equal with the field experience on behavior of others toward the subjects.

Thorman concluded that any of the three methods of training in interpersonal skills seemed to make the teacher education students more gregarious and outgoing. Thorman also concluded that direct experiences with other persons as in the T-group or the field experience approach were more valuable than academic experiences with the same objectives.

Marshall (80) reported the incorporation of sensitivity training into a teacher education program. No formal evaluation was made, but reports of participants were collected and were sufficiently favorable to warrant continuation of the program. The subjects reported they had gained more friends and also improved understanding, openness, and communication in interpersonal relationships.

In evaluating "Human Interaction," a curriculum in human relations, Ivey et al. (66), used elementary teacher education students as subjects. The results indicated that there was evidence of behavioral change in the predicted direction among those receiving the training. This

research did not indicate change in self-concept for the participants. The overall conclusion of the investigators was that the curriculum worked.

In a study which also involved measuring participant behavior, Heck (56) used older elementary teacher education students as subjects. Participants were randomly assigned to two human relations training conditions in terms of greater or lesser cognitive complexity of their thinking. Knowledge of interpersonal communication skill and the ability to use that knowledge with a learner were measured. The researcher concluded that

> . . . the two types of training programs, across each of the two levels of cognitive complexity, were effective in promoting the acquisition of more effective communication skills. Further, examination of the mean difference scores suggests that perhaps a significant differential effect had occurred (p. 505).

However, there was no indication that the training programs differentially affected the different conceptual-level subjects.

Several investigators reported research involving measures of attitude and personality. McLeish et al. (84) reported the results of an experiment which allowed teacher education students to experience group process as well as be given tools which would allow them to analyze the experience in which they were involved. The researchers concluded that the participants had gained insight into their own behaviors as well as being favorably disposed toward the experience.

Gregg (51) reported the results of a T-group sensitivity training experience designed to develop empathic understanding in pre-service teachers. Two subgroups were formed on the basis of scores on a measure of dogmatism. The results indicated ". . . no meaningful pattern of empathic understanding between the more open participants and the less open. . ." (p. 466).

In one of the early studies of sensitivity training in a teacher education program, Davis and Bowers (34) used a sociometric questionnaire, to determine with whom the subjects liked to do various things, and a measure of self as is, would like to be, and satisfaction with actual self.

> After the discussion experience, the group's "actual-self" ratings increased but decreased for women when treated separately. No significant differences were observed in ratings of "acceptance of self," and "actual and ideal others." Following the two-week discussion and as compared with initial measurements, men tended to rate "others as less accepting of themselves," while women tended to rate "others as more accepting of themselves." More students' "self" and "others" discrepancy scores (actual-ideal) decreased than increased (p. 73).

In the fifteen studies reviewed on research in sensitivity-human relations training as a part of a pre-service teacher education program, the following observations were apparent:

1. Five (one-third) of the studies involved measurement of the effect of a structured human relations training component.
2. Five (one-third) of the studies involved the human relations training component in conjunction with student teaching.
3. Fourteen of the studies were reported in the last five years.
4. Twelve of the studies involved some measure of behavior.
5. At least one-third of the studies evaluated the results of two or more treatments.
6. At least one-third of the studies did not include at least one control group.
7. In terms of the variables measured in the studies reviewed, the results would seem to indicate:
   a) a positive attitude toward human relations training on the part of participants.

b) the effectiveness of human relations training as a result of nonempirical evaluation.

c) generally speaking, significant statistical gains in variables measured were offset by studies which indicated no significant differences.

In-service teacher education

Several studies in which in-service teachers were used as subjects were found in the literature. Most of these studies used behavioral measures; frequently attitudinal measures were combined with behavioral measures. A few studies used only attitudinal measures.

Research in self-directed T-groups in an effort to determine if elementary teachers could help one another to work in new and innovative ways with children was reported by Brenner (20). Teachers were divided into three treatment groups: 1) classroom practices treatment; 2) parent-teacher relationship; and 3) control (nonparticipating). As a result of the classroom practices treatment, the teachers reported they learned of innovations in five sessions, felt closer to colleagues in four, and tried some innovations as a result of the sessions. No norms favoring innovativeness were developed. Both treatment groups tried more innovations than the controls during the final two weeks of the project. Differential effects in terms of new classroom practices used were found favoring schools where the sessions had produced more knowledge than average about new methods. The teachers in small groups also perceived their principals as knowing more about them and thus better able to evaluate their work. They also became closer to one another.

Lee (74) attempted to investigate and evaluate the effectiveness of sensitivity training in an in-service teacher-training program in human relations. Post-test data were gathered on teacher and student absenteeism, attitudes toward teaching and students, self-esteem, and attitudes of administrators and parents. Analysis of the pre- and post-test differences indicated that sensitivity training had a ". . . significantly positive effect on . . . teacher attitude toward children, personal relationships and teaching as a career (p. 32). The teachers in sensitivity training also increased in self-esteem more than the control teachers. Parent and administrator ratings favored those in sensitivity training, but these results were not significant. There were no differences on teacher absence, but student absence was significantly lower in the sensitivity group. Compared to the conventional class in human relations, post-test data indicated that sensitivity training proved to be superior in reducing student absenteeism with significant trends favoring sensitivity training in improved attitudes toward teaching and students and self-esteem. Lee concluded that sensitivity training was a workable and effective form of in-service teacher education.

In one of the early studies of the effect of sensitivity training on experienced elementary teachers, Bowers and Soar (19) measured teacher attitude, personality, and behavior, as well as student behavior. In terms of change in attitude, inventory results indicated the subjects who received sensitivity training ". . . became more accepting and permissive in their attitudes toward pupils and more democratic in their educational leadership; the change in attitudes towards pupils was significantly greater among trained teachers than control teachers, but the change in

ideal of educational leadership was not" (p. 86). No significant differences were apparent in personality variables. Analysis of behavioral results indicated regions of significance in twenty of the twenty-five variables measured. Bowers and Soar concluded that human relations training was useful in teacher education particularly for those with a personality responsive to such training.

The results of a laboratory for elementary teachers were reported by Schmuck (98). Specific classroom objectives were set by each teacher and assessed in follow-up meetings during the first semester. The results indicated that the laboratory teachers and their students made more positive changes in group processes than those in the seminar control group. Both treatment groups were more improved at the end of the school year than the control group. The most obvious difference between the teachers in the two treatment groups was that there was high group cohesiveness in the sensitivity-human relations group while the seminar group had almost none. Relative to classroom behavior, the most emphasized practice reported by the human relations teachers was increasing openness in communication between students and between students and teachers. The human relations group members also ". . . produced more elaborate plans of action and attempted more practices for improving group process than the . . . [seminar] teachers. . ." (p. 715).

Two studies which evaluated behavior of elementary principals were reported by Thomas and Miles. Thomas (120) presented the results of a laboratory on interpersonal relations for elementary school principals. Teachers answered pre- and post-questionnaires about their principals. Results of the study supported the following hypotheses: experimental

principals 1) became more considerate of the needs of individual staff members; 2) were more tactful; 3) moved toward a more collaborative approach in decisions about teacher supervision; 4) provided more leadership for improving staff performance; 5) had higher morale on their staffs; and 6) presided over schools which became more open.

One of the earliest studies involving educators was reported by Miles (86). The subjects were mostly elementary principals who participated in a human relations training laboratory. The major findings indicated no change in job performance due to training though an open-ended perceived-change measure differentiated significantly the experimental and control subjects. The best single predictor of behavioral change on the job was trainer ratings of learning in the laboratory. Miles concluded that the experimental group ". . . experienced clear, moderately predictable impact as a result of attending this human relations training laboratory. . ." (p. 306). Miles also concluded that

> Personality inputs seem important mainly as facilitating factors during training; what counts is the person's actual transaction with the experiences of the laboratory. This transaction seems not to have "bite" until the second week, when fuller engagement with the situation may be under way. . . . Finally, back-home organizational factors, for this sample, exerted some--but less than expected--impact (p. 306).

A study which involved measurement of behavior in both elementary and secondary teachers was reported by Khanna (70). The research measured the results of a summer sensitivity training laboratory and fourteen follow-up Saturday sessions during the school year. The overall conclusions were that those who had human relations training were less authoritarian and more self-actualized, developed better interpersonal relationships, and

greater self-insight and leadership skills. The laboratory subjects were also perceived more positively by their supervisors and students.

Keutzer et al., as well as Suehr and Krafft, reported studies in which behavioral measures were reported on secondary teachers. Keutzer et al. (69) presented the results of a laboratory learning experience for an experimental group in a new high school compared with control subjects in a second new high school. The results indicated that the teachers in the experimental group evidenced greater interpersonal openness, the students saw the faculty as more receptive to student ideas, opinions, and attitudes, and the students had in turn participated in more decisions affecting their learning. The students also had stronger feelings of responsibility toward their fellow students and faculty and stronger self-discipline in unsupervised areas as well as classrooms.

Suehr and Krafft (112) reported results of a sensitivity training laboratory involving seminar teachers and high school students. The objectives were to determine if the sensitivity training laboratory ". . . would cause teachers to improve the quality of their seminar instruction . . . [and] to help teachers acquire skills and knowledge needed to assist other teachers to become more able instructors of small-group seminars" (p. 300). These investigators concluded:

> Presently available feedback indicates that this nine-day laboratory has had a significant impact on the . . . participants. This change did carry over to their day-to-day lives, has positively affected performance as seminar teachers, and ultimately helped students (p. 302).

Suehr and Krafft also indicated that the laboratory extensively affected relationships on faculties from which the participants came as similar laboratory experiences were being held for faculties as well as the total

school community (boards, students, parents, and citizens, as well as faculty and administrators).

Studies of elementary and secondary teachers in human relations training experiences in which attitudinal measures were taken were reported by Kampsnider, Sweeney, Provost, and Boller. Kampsnider (68) reported the only empirical research on the Interaction Laboratory for Teacher Development. The subjects were selected ". . . on the basis of having demonstrated leadership and skill in teacher-student interaction. . ." (p. 63). Post-test data indicated a highly significant difference between the experimental and control groups on the measure of ressentience. There was no significant difference between groups on dogmatism. The data also indicated that the program results were independent of the trainer.

Nonempirical evaluation of the effect of the Interaction Laboratory was provided by Sparks (109) when he reported that

> Observers within supervisory ranks say that virtually every incident encountered by a teacher or a principal who has participated in the human relations program has been handled skillfully, without the adult showing exasperation or passing the buck to higher authority. To quote a teacher who reportedly maintained her poise while going through an emotional ordeal with students: "If I hadn't taken that human relations course I would have botched the situation" (p. 45).

Sweeney (113) assessed the effect of a T-group sensitivity training laboratory on teacher attitudes toward students and teaching. The results indicated that the control group scores remained the same or decreased while the experimental subjects increased from five to twenty percentile points with secondary teachers of academic subjects increasing the most. The researcher indicated that a follow-up was needed to determine if these

changes resulted in change in classroom behavior on the part of the experimental subjects.

In a study of participants in the Multi-Cultural Teacher Training Institute, Provost (92) used sensitivity training as the treatment. The subjects, beginning teachers, were measured on attitude toward self, others, and teaching. Results indicated that the secondary experimental subjects were significantly higher on attitude toward teaching, the elementary experimental subjects were significantly lower on trustworthiness, and all experimental subjects were significantly higher on attitude toward self. Provost concluded that teachers who did not receive sensitivity training were more externally influenced, more rigid in applying values and principles to their lives, and did not develop as many meaningful relationships with others. The author further concluded that ". . . there is a hierarchy of attitudes and change is evolutionary in that one must, first of all, be aware of and change attitudes about self. This, in turn, will bring about change in attitudes towards teaching. . ." (pp. 7-8).

Research on a sensitivity training course for teachers which included self-awareness, other-awareness, group awareness, and T-group activities was presented by Boller (16). Significant differences were found in all variables measured--level of regard, empathic understanding, unconditionality of regard, congruence, and total relationship.

In the fourteen studies reviewed on research in sensitivity-human relations training as a part of an in-service teacher education program, the following observations were apparent:

1. Approximately one-fifth of the studies involved measurement of the effect of a structured human relations training component (one of

these studies indicated the structured program not to be trainer dependent).

2. All but two of the studies were reported in the last five years.
3. Nine of the studies involved some measure of behavior.
4. Three of the studies evaluated the results of two or more treatments.
5. Only one of the studies did not include at least one control group.
6. In terms of the variables measured in the studies reviewed, the results seem to indicate:
   a) effectiveness of human relations training as a result of non-empirical evaluation.
   b) an increase in favorable knowledge, skills, attitudes, or self-concept as a result of human relations training.
   c) improved attitudes and behavior for students of teachers who had human relations training.
   d) limited indication of no significant differences in knowledge, skills, attitude, or self-concept on the part of participants in human relations training.
   e) some indication of perceived change on the part of participants in human relations training.
   f) some indication that the personality of the participant was important to the results of the training.
   g) some indication of a favorable attitude toward human relations training on the part of participants.

Summary

An overall assessment of the research available in human relations training seemed to indicate an expanded interest in the subject in the last five years at both the pre-service and in-service levels of teacher education. Mixed results of the various kinds of sensitivity-human relations training in terms of the knowledge, skills, behavior, and attitudes measured were also apparent. However, the balance in terms of empirical results seemed to slightly favor the use of human relations training. Attitude on the part of participants, where measured, seemed to be favorable to the experience. Many of the studies involved evaluation of two or more approaches to human relations training, and the vast majority included behavioral measures. Structured human relations training approaches were also apparent in the studies reviewed.

CHAPTER III. METHOD OF PROCEDURE

This chapter presents a detailed description of the procedures involved in carrying out the experiment. The divisions of the chapter are: 1) a description of the laboratory; 2) a description of the pilot study; 3) the setting, experimental design, statistical analyses, participants, and data collection; and 4) the constructs and their measurement.

Description of the Laboratory

The Interaction Laboratory for Teacher Development (119), designed to provide training in human relations skills related to teaching, was used as the independent variable in this study. The structured activities of the Laboratory are experiential in nature and provide for personal and shared learning experiences for the participants. Student reaction to the experiences of the Laboratory provide the data for the structured discussion which follows each activity in an effort to relate the group data and actual behavior of teachers. As stated in the manual (119), the objectives of the Laboratory were 1) to make the teacher education student aware of how important human relations skills are in teaching and 2) to expose the pre-service teacher to the variety of interpersonal problems which arise between teachers and pupils as well as other persons in the school setting. More specifically, the objectives of the laboratory relate to development of conceptual understanding of basic communication skills, group interaction, interpersonal skills, and professional problems (68). "The program rationale formulated to achieve the learning objectives was based on the assumption that teachers must understand certain basic human relations concepts about teaching and develop attitudes which assign value to these con-

cepts before they can develop actual skills in human relations. . ." (68, p. 36).

The rationale for the Laboratory recognized that

> . . . teachers are individuals, each with a unique set of personality characteristics, [and thus] the training program utilizes the group setting to allow each individual to examine his or her style of interacting with others. Such techniques as role playing, simulation exercises, and group problem solving allow students to receive feedback about their effectiveness with other people. Analysis of behavior in a group setting provides the student with valuable information about his or her actions in a group and promotes understanding of future leadership roles required in the classroom (119, pp. 1-2).

Of the three instructors whose classes participated in the research, two were trained in the techniques of the Interaction Laboratory for Teacher Development by a representative of the developer and publisher during a one-day workshop held on the Iowa State University campus in July, 1972. The third instructor served as a co-trainer with the investigator for one pilot section of the Interaction Laboratory during Fall Quarter, 1972.

It was known at the time of the workshop that the Interaction Laboratory would have to be adapted to fit the time constraints of the quarter system. The trainer was asked to rate the exercises in the Laboratory in order to facilitate the necessary adaptation of the Laboratory. Each exercise was rated on a one-to-four scale:

one - leave as is, priority;

two - shift or modify, but keep;

three - drop, combine, or change as it is not critical; and

four - first to drop.

The Interaction Laboratory was adapted for use in the experiment as follows: fifteen exercises were left intact, six were modified or combined, and five exercises were dropped. Appendix A contains a description of each exercise with an indication of the priority assigned to it by the trainer as well as a notation whether it was included, modified, or excluded from the Laboratory as used in this experiment.

Pilot Study

A pilot experiment was conducted during Fall Quarter, 1972, in order to determine what changes needed to be made in the original conception of the study. Among the changes which resulted were: 1) development of a common syllabus for the control groups; 2) use of common textual materials in the control groups; 3) pointing out to the microteachers that interaction between teacher and "students" (fellow microteachers who served as students) was of particular concern to the researcher (the majority of the microteachers in the pilot of the study seemed to emphasize presentation of cognitive information to students rather than using teaching methods which involved interaction with students); 4) post-testing during the final class session rather than during final week; and 5) using a common topic for post-test discussion in all sections for analysis of interpersonal communication within groups. Data collected during the pilot study were used to establish reliability for the paper-pencil instruments used in the research.

The pilot study made it possible to familiarize the instructors with the materials in both the Interaction Laboratory and the traditional approach to Education 305A. The pilot study was also used to train the

third instructor designated to conduct one of the laboratory sections during the study.

Setting, Experimental Design, Statistical Analyses, Participants, and Data Collection

The experiment was conducted in eight of ten sections of Education 305A, Methods of Teaching (Secondary), at Iowa State University during Winter Quarter, 1973. Education 305A is described in the current general catalog of the university as including

> Current educational methods and their subsequent utilization in the classroom. Special emphasis on planning, objective formation, and teaching techniques.

The course is required in the secondary teacher education program.

The experimental design used for the study was the pre-test, post-test control group design (24). An additional element in the design of the study was the addition of a nonrandomized control group composed of two sections of Education 305A, each of which contained a maximum of thirty-five students. These two sections were used to determine if class size affected results for the control groups.

The statistical models used to test means and the analysis of variance between groups were conventional models involving an unequal number of subjects in the groups. Explicit models used are presented in Chapter IV.

Students were assigned by computer to three sections of Education 305A. A limit of forty-five students was placed on each of three sections scheduled to meet twice a week (Tuesday and Thursday) for one hour and twenty minutes. After the first class session, the students in each of these original three sections were assigned student numbers in alphabetical order. Before the second class session, the students were randomized into

two sections of Education 305A meeting at the same time, a Laboratory and a control section. Each experimental section used the activities of the Interaction Laboratory for Teacher Development (adapted), and each control section (designated Control-20 to indicate a maximum of twenty students) used the traditional approach of lecture, class discussion, and student presentations.

In addition to the six sections described above, two additional sections of Education 305A met for fifty-minute sessions three days a week (Monday, Wednesday, and Friday). As was indicated above, these sections were used to control for size and were of the more traditional class size for the course with a limit of thirty-five members (designated Control-35 to indicate a maximum of thirty-five students). The instructors for the Control-35 sections were the two instructors other than the investigator involved in the research. Two Monday-Wednesday-Friday sections of Education 305A were not included in the experiment as it was decided that two Control-35 sections were sufficient to determine the effect of class size on the dependent variables. Basic data on all students who completed Education 305A Winter Quarter, 1973, are presented in Table 1.

For the most part, students in Education 305A hold at least junior classification. Winter Quarter, 1973, one freshman and four sophomores were in the Control-35 sections, and one sophomore was in each of the Interaction Laboratory and Control-20 sections. There were five sophomores in the two sections not involved in the study.

Each of the Laboratory and Control-20 sections of Education 305A was to have an equal number of students in the experimental and control groups meeting at the same hour. The three sections of the Interaction Laboratory

Table 1. Distribution of students in Education 305A, winter quarter, 1973, by sex, marital status, age, class, and grade point average

	N	Sex		Marital status		Age				Classification			Gumulative G.P.A.			
		Male	Female	Single	Married	19-20	21	22-23	24-32	Fr.-Soph.	Junior	Sr.-Grad. Special	1.5-2.49	2.5-2.99	3.0-3.49	3.5-4.0
Students in Interaction Laboratory	46	19 41%	27 59%	37 80%	9 20%	25 54%	11 24%	7 15%	3 7%	1 2%	31 67%	14 30%[a]	12 26%	20 43%	7 15%	7 15%[a]
Students in Control-20	45	21 47%	24 53%	36 80%	9 20%	31 69%	6 13%	4 9%	4 9%	1 2%	37 82%	7 16%	13 29%	16 36%	10 22%	6 13%
Students in Control-35	60	35 58%	25 42%	42 70%	18 30%	30 50%	16 27%	7 12%	7 12%[a]	5 8%	37 62%	18 30%	20 33%	20 33%	17 28%	3 5%[a]
Total students in study	151	75 50%	76 50%	115 76%	36 24%	86 57%	33 22%	18 12%	14 9%	7 5%	105 70%	39 26%[a]	45 30%	56 37%	34 23%	16 11%[a]
Students not in study	53	28 53%	25 47%	41 77%	12 23%	36 68%	7 13%	2 4%	8 15%	5 9%	40 75%	8 15%[a]	16 30%	20 38%	10 19%	7 13%
Students in Education 305A winter qtr. 1973	204	103 50%	101 50%	157 76%	48 24%	122 60%	40 20%	20 10%	22 11%[a]	12 6%	145 71%	47 23%	61 30%	76 37%	44 22%	23 11%

[a]Category total is more or less than 100% due to rounding.

had eighteen, thirteen, and fifteen students for a total of forty-six students who completed the Laboratory. The Control-20 sections which met at the same time had respectively seventeen, thirteen, and fifteen students for a total of forty-five students who completed the course. The two Control-35 sections contained thirty-one and twenty-nine students for a total of sixty students who completed the course.

Both the experimental and the control sections were taught from common syllabi developed for each treatment and prepared by the instructors assigned to teach Education 305A during Winter Quarter, 1973. (Appendix B contains the syllabus for the Interaction Laboratory, and Appendix C contains the syllabus for the control sections.) Each of the three instructors involved in the study taught one Interaction Laboratory section and one Control-20 section. Topics in the syllabus for the control sections included classroom objectives; learning taxonomies, learning theories, and instructional sequence; planning for large group, small group, and individualized learning; technical skills of teaching; secondary reading instruction; evaluation of instruction; classroom management; and the teacher as counselor.

Grading of all sections of Education 305A during Winter Quarter, 1973, was based on a contract approach in which minimal requirements were established for a "C" grade with additional requirements placed on those who wished to receive a "B" or "A" grade for the course.

The four contract activities available to those in the Interaction Laboratory were:

1. Prepare a written report on secondary school reading instruction;
2. Prepare a learning package and evaluate the learning package of another 305A student;
3. Prepare two sets of lesson plans or participate in microteaching;
4. Participate in the classroom laboratory experiences and any other assigned activities including pre-testing and post-testing.

In the Control-20 and Control-35 sections, the individual instructors offered a variety of contract activities from which the student could choose. This writer assigned three activities which were required of all students for a "C" grade. Additional activities were available and required sixteen points for a "B" grade or thirty-two points for an "A." Absences were limited to three class sessions after which the student's grade was reduced.

Two texts were used in the Control-20 and Control-35 sections: Developing Teacher Competencies (128) and Reading in the High School (39). The latter was also used in the Interaction Laboratory sections as well as Student Journal: Interaction Laboratory for Teacher Development (118). The Student Journal was designed for use by students in recording their observations, answers, and reactions to the activities of the Laboratory.

Two of the instructors whose classes were involved in the experiment were male and one was female. All instructors had been successful classroom teachers at the secondary level, and all had taught a minimum of two years in general education at the college level.

The experiment was begun the first day of Winter Quarter, 1973 (November 27, 1972) and concluded the last day of the quarter (February 23, 1973). The first session of each class was used to pre-test the Education 305A students on the following measures: 1) The Adjective Check List (50);

2) Teacher Conceptions of the Educative Process Questionnaire (127); and 3) Fundamental Interpersonal Relations Orientation-Behavior (101). The last regular class session was used to post-test students on these measures for six class sections involved in the experiment. Two sections, a Control-20 and a Control-35 section, were post-tested during final week. In the post-testing, the Iowa State University Government of the Student Body Instructor Evaluation Device was also used.

Constructs and Their Measurement

The purpose of this experiment was to investigate the effects on attitudes and behavior of secondary teacher education students as a result of participating in the Interaction Laboratory for Teacher Development (adapted) and to compare those results with the effects on students who participated in the traditional Education 305A course. The constructs which were measured in this study were: interpersonal communication; self-perception; beliefs about the educative process; attitudes toward courses; indirect verbal behavior; and behavior in interpersonal situations.

The independent variable in this experiment was the instructional experience received by the student. In one case, the group participated in a laboratory experience, and in the other the group received a more traditional approach to a general methods course. The post-test differences between the experimental and control groups on the variables used to measure the constructs served as the dependent variables. Other factors which were controlled were: reliability of the raters of the video-taped discussions to assess interpersonal communication; reliability of the raters of the taped microteaching to assess indirect verbal behavior; and reliability

data on the Fundamental Interpersonal Relations Orientation--Behavior questionnaire and the Teacher Conceptions of the Educative Process Questionnaire.

Interpersonal communication

The construct "interpersonal communication" is defined by Kurpius as "The ability to transmit attitudes, values, feelings, ideas, beliefs, and knowledge from one person to another" (72, p. 256). In this study, the definition will be restricted to the verbal transmissions of "attitudes, values, feelings, ideas, beliefs, and knowledge from one person to another." This definition then indicates that the data used to measure the construct were acquired from verbal communication. For the purposes of this research, "interpersonal communication" will be defined operationally in terms of the Hill Interaction Matrix, a process and outcome system which ". . . yields reliable quantitative indices of group interaction . . . [which] can be interpreted to produce meaningful and significant descriptions of total group operation so that groups can be systematically compared. . ." (58, p. 57). As originally developed, the Hill Interaction Matrix ". . . was intended to measure objectively all kinds of groups. . ." (58, p. 5).

The Hill Interaction Matrix consists of twenty cells found in two dimensions called "Content/Style" and "Work/Style" (see Figure 2). There are four discussion targets or subjects in the "Content/Style" dimension of the HIM. They run horizontally across the matrix and are: I - Topic; II - Group; III - Personal; and IV - Relationship. Discussion targets I

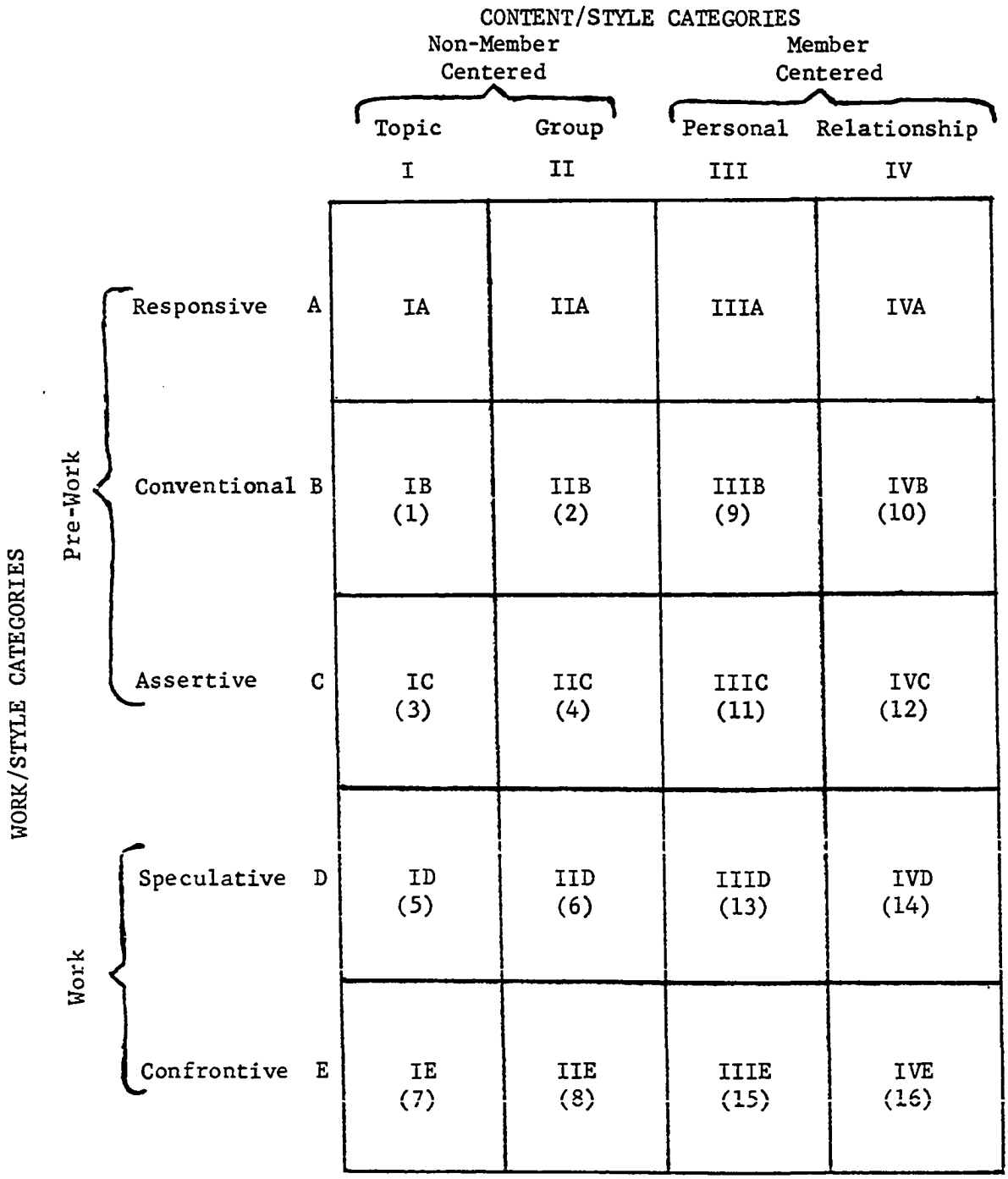


Figure 2. Hill Interaction Matrix (58, p. 14)

and II are further classified as Non-Member Centered, and discussion targets III and IV are classified as Member Centered.

The "Work/Style" dimensions of the HIM are vertically arranged along the left side of the matrix and deal with the way in which the group members are interacting. They are named: A - Responsive; B - Conventional; C - Assertive; D - Speculative; and E - Confrontive. Work/Styles A through C are further classified as Pre-Work, and D and E are classified as Work. To Hill, the concept "work" meant ". . . that someone in the group is taking the role of the client and actively seeking self-understanding. . ." (36, p. 67). Further information on the HIM system is available in the literature (58, 59, 60).

The order of the categories in the HIM reflects the value system from which the HIM emerged. Therapeutic value has been assigned to each cell beginning at the Conventional level. These values are indicated in parentheses on the matrix presented in Figure 2. This value system was derived from both theoretical and rational bases and also demonstrated the highest coefficient of reliability in reliability studies.

Detailed reliability studies of the Hill Interaction Matrix were presented in the monograph by the same name (58). Test-retest correlation coefficients of .90 and .99 were reported. In addition, interjudge reliability was reported in terms of percentage of agreement (70% average), product-moment correlations (.76 average), and rank order correlations (.90 average). Hill also compared these approaches to measuring reliability with the results obtained by other researchers using similar measures. Hill concluded that in terms of interjudge agreement and product-moment

correlation that the reliability of the HIM was adequate, and in the case of rank-order correlation, the HIM was highly reliable.

The approach used to validate the Hill Interaction Matrix was that of describing different kinds of groups, such as interaction and insight groups as well as various classic types of groups used in psychotherapy, and then assessing interaction in each using the HIM in order to determine if the instrument discriminated one group from another. Hill concluded that the validity of his scales was indicated by comparing the results of the group ratings with the type of group being evaluated.

In a further effort to validate the HIM using the results of analysis of tapes from seven approaches to group psychotherapy, Hill examined the literature to see if the results reported there for each group were consistent with the findings of his validational studies. It was Hill's overall conclusion that the HIM does distinguish the characteristics reported in the literature for these various approaches to psychotherapy.

In this study, each of the eight groups participating in the experiment was video-taped in a discussion at the beginning and at the end of the quarter. The pre-test discussion topic for the Laboratory comprised student reaction to a series of incidents involving teachers presented in Exercise One of the Laboratory. For the control groups, the pre-test discussion topic involved student identification of the major roles teachers play, to whom teachers are accountable, and the ways teachers are accountable. The post-test discussion topic for both the Laboratory and the control groups involved identification of the qualities of "better" teachers followed by individual and group assessment to determine which of these qualities were present in class members. The tapes of the discussions

ranged from twenty minutes and thirty-four seconds to thirty-two minutes twenty-five seconds in length. The median discussion was twenty-six minutes three and one-half seconds in length.

Three female graduate students in guidance and counseling were identified by a member of the Iowa State University College of Education faculty as potential raters of the taped group interaction. The three raters, together with the investigator, were trained by a member of the Home Economics Education faculty who had considerable training and experience using the system. Prior to the training, each rater was provided a copy of the Hill Interaction Matrix (58), the Hill Interaction Matrix Scoring Manual (59), and It All Has To Do With Identity: A Handbook on Group Interaction (83).

Three card sort decks developed by Hill were also used in the training. Each card contained a sample of interaction which was to be rated using the HIM system. Discussion of differences in placing the items in the decks was used to clarify differences in the thinking of the raters on each of the items. In order to specifically familiarize the raters with the types of interaction which they would be rating, a video-tape of discussion from the pilot of the study was presented at the conclusion of the third training session and during the fourth session.

All tapes were viewed simultaneously by the three raters during the twelve analysis sessions. The ten-minute segment of each tape being analyzed was previewed first in order to acquaint the raters with the topic being discussed. The tape was then replayed stopping after each speaker in order to give the raters time to record the content and work style of each interaction. If problems developed in analyzing a particular segment, the

tape was replayed until it was agreed what was being said. In this way, the raters were always rating the same interaction. Two tapes were of such poor quality that a transcript was made of each prior to rating the discussion.

The tapes were randomized prior to analysis. The raters were unaware of which tapes were of pre-test and post-test discussion as well as which tapes were of experimental or control groups. The first four tapes to be analyzed were analyzed a second time as a result of redefinition of the types of interaction to be placed in two of the work/style categories.

Interrater reliability was determined by correlating the recordings of each interaction for each of the raters. A Spearman-Brown average interitem reliability of 0.78 was determined. Rater reliability over time, intrarater reliability, was determined to be 0.58 (see Table 2) as a result of correlating the tallies for the same group discussions taken approximately three weeks apart for the first tape and seven weeks apart for the second. One pre-test tape and one post-test tape were randomly selected to determine intrarater reliability.

Table 2. Rater reliability over time (Spearman-Brown average interitem reliability)

Rater	Tape 4	Tape 9	Rater average
1	.67	.24	.45
2	.58	.80	.69
3	.49	.70	.59
Overall reliability			.58

Self-perception

The construct which is usually used to define what a person believes himself to be is "self-concept." Because of the difficulty in definition of this construct, the construct "self-perception" will be used and defined as ". . . what a person is willing or able to divulge. . ." about himself (28, p. 52). The definition then indicates that the data used to measure the construct were acquired from students' self-reports. For the purposes of this research, self-perception will be defined operationally in terms of the scale scores Personal Adjustment, Interception, Nurturance, and Abasement from Gough and Heilbrun's The Adjective Check List (50). Appendix D contains the instrument.

Gough and Heilbrun's The Adjective Check List is organized around the framework of need theory and is used primarily as a research instrument. It is composed of 300 adjectives which are in common use for describing the attributes of a person.

Test-retest reliability coefficients for the four scales used in this research to measure self-perception range from .70 to .85 for fifty-six college males over a ten-week period, from .46 to .84 for twenty-three college females over a ten-week period, from .37 to .68 for one hundred adult males over a six-month period, and from .37 to .55 for thirty-four medical students over a five and one-half year period.

Heilbrun (57) validated five need scales on external criteria obtained from subjects' self-reports on a questionnaire. The subjects were ninety-nine students in an undergraduate psychology course. Nurturance was assessed on the basis of reported effort, time, or money expended by the subjects over the previous two years on various activities concerned with

helping others. Subjects falling in approximately the upper third of the distribution were compared with those falling in approximately the lower third. The results of a t-test on the means of the two groups were significant at the .03 level. Abasement was assessed on the basis of subjects' predictions of expected course grades (in the first class session) relative to current cumulative grade point average. A discrepancy score was determined between predicted grade and present cumulative grade point. It was predicted that subjects who estimated excessively higher course grades than their present cumulative grade point would have a lower mean on the Abasement scale. Subjects were divided on the basis of discrepancy scores into approximately the highest forty percent and the lowest forty percent. The results of a t-test on the means of the two groups were significant at the .01 level. Heilbrun also compared the results for validating each scale with the results reported by the subjects on those scales and concluded that "Adequacy of the validating criteria was indicated by the failure to find clear relationships between these criteria and those scales for which they were 'irrelevant' in this study" (p. 351).

Beliefs about the educative process

The construct "beliefs about the educative process" was defined by Wehling and Charters as ". . . the principal dimensions of teachers' belief systems regarding the classroom teaching-learning process" (127, p. 7). For the purposes of this study, "teacher-education students' belief systems" will be substituted for "teachers' belief systems" so the definition will read "the principal dimensions of teacher education students' belief systems regarding the classroom teaching-learning process." This definition

then indicates that the data used to measure the construct were acquired from self-reports of teacher education students. For the purposes of this research, "beliefs about the educative process" will be defined operationally in terms of the eight scale scores from Wehling and Charters' Teacher Conceptions of the Educative Process Questionnaire (TCEPQ) (127). The instrument is found in Appendix E.

Wehling used a test-retest approach in establishing the reliability of the 118-item device used for his study in 1964 (126). Fifty-nine elementary and secondary teachers filled out the device approximately two weeks after the first testing. Test-retest correlations for the six scales ranged from .57 to .74 with only one correlation below .70.

In presenting the TCEPQ, Wehling and Charters included an appendix containing the items within the eight scales of the questionnaire which this investigator referred to as "original scaling." A factor pattern for the eight dimensions of teacher belief was also presented which this investigator referred to as "modified scaling." Reliability for 501 observations collected in the pilot and the study itself was calculated using both "original" and "modified" scaling. Cronbach-Alpha reliability for the eight scales is presented in Table 3. Reliability for the entire test was .69 using "original" scaling and .75 using "modified" scaling.

In terms of the validity of the TCEPQ, the developers indicated that "The fundamental relationships between belief dimensions and external criteria remain to be established as the investigations of them proceed" (127, p. 24).

Table 3. Alpha reliability for the eight scales of the Teacher Conceptions of the Educative Process Questionnaire

Scale	Original scaling	Modified scaling
Subject matter emphasis	.72	.74
Personal adjustment ideology	.77	.83
Student autonomy vs. teacher direction	.78	.79
Emotional disengagement	.49	.52
Consideration of student viewpoint	.65	.67
Classroom order	.73	.84
Student challenge	.56	.69
Integrative learning	.75	.77

Attitudes toward courses

The construct "attitudes toward courses" hinges basically on the definition of "attitude." Borg and Gall indicated that an attitude ". . . is usually thought of as having three components: an effective component, which consists of the individual's feelings about the attitude object; a cognitive component, which is the individual's beliefs or knowledge about the attitude object; and a behavior component, which is the individual's predisposition to act toward the attitude object in a particular way" (17, p. 183). The affective component was that which was of greatest concern in this experiment, and thus the construct "attitudes toward courses" was restricted to the attitude object "course," meaning the education course which the student had just completed. For the purposes of this research, "attitudes toward courses" will be defined operationally in terms of the questions from the Iowa State University "Government of the Student Body Instructor Evaluation Device" (see Appendix F) which measures student attitude toward course content and attitude toward the instructor. The items

of the questionnaire are designed to minimize differences between students in a class and maximize differences between classes. The reliability of each item depends on the number of student responses. The standard error of the estimate of the mean on an item is $\sqrt{\frac{\text{Var.}}{n}}$ One of the items used had a mean of 4.23 with a standard deviation of 0.91 and a variance of 0.83. In this case, the standard error of the estimate of the mean was 0.13 thus indicating the minimal effect of the standard error of the mean on the reliability of the items used.

Indirect verbal behavior

The construct "indirect verbal behavior" was defined as that verbal behavior of teachers which ". . . encourages student participation and . . . increases his freedom of action. . ." (41, p. 21). These behaviors, then, indicated ". . . the amount of freedom the teacher grants to the student. . ." (7, p. 121). For the purposes of this research, indirect verbal behavior was defined operationally in terms of the revised i/d ratio included in the Flanders Interaction Analysis system (see Appendix G). Seven of the ten categories in the system were teacher talk. The first four categories, "Accepts Feeling," "Praises or Encourages," "Accepts or Uses Ideas of Students," and "Asks Questions" were defined in the system as indirect teacher influence. The next three categories, "Lecturing," "Giving Directions," and "Criticizing or Justifying Authority," were defined in the system as direct teacher influence. The revised i/d ratio was used in this research as it focused on motivation and control of students in the classroom and was less concerned with the actual presentation of the subject matter; ". . . it [the revised i/d ratio] is independent of communica-

tion patterns (like drill) that are unique to subject matter" (7, p. 225). The revised i/d ratio was determined by dividing the indirect teacher behaviors in categories one through three by the sum of the indirect categories included (one through three) and the direct teacher behaviors in categories six and seven.

Five students were randomly chosen from each of the eight sections of Education 305A involved in the experiment and directed to prepare three five- to eight-minute lessons which would be video-taped. These microteachers were further directed to "Use the skills which you have learned and which have been presented to you in the handouts in any way which seems appropriate for students to learn the cognitive material with which you are dealing." The remaining four members of each group served as "students." (Appendix H contains the information given the microteachers.) Video-taping took place over two and one-half weeks at the end of the quarter. One student was unable to complete this activity.

In actuality, the teaching time varied from three minutes fifty-five seconds to nine minutes thirteen seconds. The median presentation time was seven minutes twenty-five and one-half seconds. Table 4 presents a breakdown of the length of the presentations.

Three persons were involved in video-taping the students. They were the investigator, another of the Education 305A instructors, and a student who had participated in the pilot of the experiment. The students were allowed to view as much of themselves as they wished at the close of each session. They were also allowed to do a critique of themselves. However, no critique was presented to the students by the investigator until all microteaching experiences were completed.

Table 4. Number of microteachers whose presentations were of a particular length

Group	Presentation length in minutes					
	Less than 5 minutes	5-6 minutes	6-7 minutes	7-8 minutes	8-9 minutes	9-10 minutes
			Presentation two (n = 39)			
Lab	0	0	2	9	4	0
Control-20	0	0	6	7	1	1
Control-35	0	2	1	4	2	0
			Presentation three (n = 39)			
Lab	1	1	4	6	3	0
Control-20	0	0	7	7	1	0
Control-35	1	0	2	1	3	2
Composite	2	3	22	34	14	3

A graduate assistant and a graduate student categorized the verbal activities in the microteaching presentations. Each rater was trained independently in the Flanders system using the Interaction Analysis Training Kit--Level I (Revised Edition) (3) and the Interaction Analysis Training Kit--Level II (4) developed by Amidon and Amidon. The raters also learned a series of rules developed to facilitate consistency in recording the interaction being categorized (6). These rules were designed to enable raters to categorize data more consistently and thus improve reliability. Appendix I contains these rules.

The two raters then trained together using the soundtrack from videotapes of the first lesson presented by the microteachers in order to check perceptions of the verbal activity taking place and to pace their recording of the tallies. The two raters then worked together in eight sessions cat-

egorizing the verbal interaction of the microteachers on their second and third presentations. The raters used the sound track of the video-tape in rating the interaction. The tapes had been randomized so that the raters did not know whether the microteachers whom they were rating were members of the experimental or the control groups or whether they were analyzing the second or third presentation.

In this research, the raters recorded their tallies on FORTRAN coding paper. The investigator then added the information needed to distinguish the microteachers from one another. These data were keypunched onto IBM cards and processed using a program designed to produce the revised i/d ratio.

Interrater reliability was determined by correlating the first seventy tallies of forty teaching presentations. The forty presentations were selected because each had an equal number of tallies for each of the raters, and seventy was the least number of tallies for any of the presentations. A Spearman-Brown average interitem reliability of 0.62 was obtained. This figure might well be regarded as conservative inasmuch as the raters were not directed to record their tallies simultaneously. Reliability of the raters over time (intrarater reliability) was -0.052 and 0.054 for an average correlation of 0.01 on the first teaching presentation and 0.20 for each rater on the second teaching presentation for an average correlation of 0.20. Low correlation between raters over time can be ascribed at least in part to the difference in the number of tallies between the first and second ratings of each teaching presentation. These differences ranged from a low of four to a high of ten tallies. In addition, a time lapse of at least six weeks between the session in which

intrarater reliability was determined and the previous rating session probably caused the raters to lose some proficiency.

Because of the low correlation between raters over time, indicated above, intrarater reliability was computed for all tallies recorded on these two teaching presentations using the Scott coefficient of reliability (103). This was the approach for determining reliability of raters recommended by Flanders (7).

Scott's coefficient, π (pi), is defined as ". . . the amount that two observers exceeded chance agreement divided by the amount that perfect agreement exceeds chance" (7, p. 161). Pi is determined using the following formulas: $\pi = \frac{P_o - P_e}{1 - P_e}$ and $P_e = \sum_{i=1}^{k} P_i^2$. P_o is the percent of agreement between the raters, and P_e is the percent of agreement between the raters possible by chance. P_e is calculated by squaring the average percent of tallies for the raters in each of the ten categories and summing over all categories. (Appendix J presents both the interrater reliability and the intrarater reliability data for the two teaching presentations used to determine intrarater reliability via Scott's coefficient.)

Reliability of raters over time for the first teaching presentation was .63 and .68 for an average pi coefficient of .66. The second teaching presentation produced a .45 pi coefficient for both raters. Williams (130) suggested the following standards for the pi coefficient:

.60 - .75 moderate agreement
.76 - .90 good agreement
.91 - .99 high agreement.

Averaging the pi coefficients for the two teaching presentations on which intrarater reliability was determined produces a coefficient of .71 which would be categorized as moderate agreement.

As far as the validity of the Flanders Interaction Analysis system is concerned, Amidon and Flanders indicated that it was a valid system because "All categories are mutually exclusive, yet totally inclusive of all verbal interaction occurring in the classroom" (5, p. 122). Cyphert (33), in a recent analysis of research in pre-service teacher education, indicated that almost twenty-five percent of the studies of the last seven years have used Flanders Interaction Analysis system. Such use would seem to indicate high judgmental validity for the Flanders system.

Behavior in interpersonal situations

The construct "behavior in interpersonal situations" was defined by Schutz as the way ". . . an individual characteristically relates to other people" (101, p. 4). For the purposes of this study, this definition will stand. However, it must be understood that the data used to measure the construct were acquired from self-reports of the teacher-education students involved in the experiment. For the purposes of this study, "behavior in interpersonal situations" will be defined operationally in terms of the six scale-scores from Schutz's Fundamental Interpersonal Relations Orientation--Behavior questionnaire (FIRO-B) (101). The instrument is found in Appendix K.

According to the theory supporting FIRO-B, there are three dimensions in the scale: Inclusion, Control, and Affection. Each of these dimensions has two aspects--one of expressed behavior and one of wanted behavior. The

former was developed to indicate how the individual would behave toward others, and the latter was designed to indicate how the individual wanted others to behave toward him.

In terms of the reliability of the FIRO-B, alpha coefficients were determined on the 494 observations collected in the pilot and the study itself. The six scales and their coefficients were: Expressed Inclusion - .71; Wanted Inclusion - .92; Expressed Control - .80; Wanted Control - .72; Expressed Affection - .80; and Wanted Affection - .81.

Content validity of the FIRO-B depends upon the ability of the test items to sample the type of situations or material on which conclusions are to be reached. According to Schutz, "If the theory underlying the use of Guttman scales is accepted, then content validity is a property of all legitimate cumulative scales, and therefore of all FIRO-B scales [as they are Guttman scales]" (101, p. 6).

CHAPTER IV. FINDINGS

The experiment was designed to investigate the attitudes and behaviors of secondary teacher education students as a result of participating in a human relations laboratory and to compare these results with students who participated in a traditional approach to a general methods course. The constructs measured were: interpersonal communication; self-perception; beliefs about the educative process; attitudes toward courses; indirect verbal behavior; and behavior in interpersonal situations.

The research hypothesis was that education students who participate in a structured human relations laboratory will demonstrate attitudes and behavior which are significantly different from those of students trained in a traditional approach to a general methods course. Specific directional hypotheses were derived for each of the six constructs measured. The hypotheses being tested are presented for each construct together with subhypotheses where such are appropriate.

Construct 1: Interpersonal Communication

Hypothesis 1. The level of interpersonal communication will be significantly higher for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

Interpersonal communication was defined operationally as the score obtained on the Hill Interaction Matrix (58).

The computer program used with these data combined the ratings for each statement by each rater for each group and produced the mean, variance, and standard deviation for that group's interaction.

The data used in testing Hypothesis 1 are presented in Table 5. The computed t value of 0.41 did not approach significance. Therefore, Hypothesis 1 was rejected. However, t tests on the means for each section within the Laboratory and Control-20 groups indicated some statistically significant differences. These data are presented in Tables 6 and 7.

Table 5. T test of post-test data on interpersonal communication

Group	N	Mean	Standard deviation	T[a] value
Laboratory	473	7.24	4.32	0.41
Control-20	534	7.36	4.96	

[a]Table values for t (one-tailed) at infinite degrees of freedom are 1.65 at .05 and 2.33 at .01 levels of significance.

Table 6. T tests of post-test data on interpersonal communication for laboratory sections by instructor

Instructor	N	Mean	Standard deviation	T[a] value
1	191	8.16	5.01	0.14
2	159	8.23	4.39	
1	191	8.16	5.01	5.88**
3	123	5.34	3.57	
2	159	8.23	4.39	6.15**
3	123	5.34	3.57	

[a]Table values for t (two-tailed) at infinite degrees of freedom are 1.96 at .05 and 2.58 at .01 levels of significance.

**Significant at $P<0.01$.

Table 7. T tests of post-test data on interpersonal communication for Control-20 sections by instructor

Instructor	N	Mean	Standard deviation	T[a] value
1	167	8.51	4.75	2.63**
2	174	7.14	5.02	
1	167	8.51	4.75	4.02**
3	193	6.42	5.13	
2	174	7.14	5.02	1.36
3	193	6.42	5.13	

[a]Table values for t (two-tailed) at infinite degrees of freedom are 1.96 at .05 and 2.58 at .01 levels of significance.

**Significant at $P<0.01$.

Construct 2: Self-perception

Hypothesis 2. Self-perception will be significantly different for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

Self-perception was defined operationally in terms of the four scale scores Personal Adjustment, Intraception, Nurturance, and Abasement from Gough and Heilbrun's Adjective Check List (50). The directional subhypotheses are presented for each of these variables together with data used in comparing means between the Laboratory and Control-20 treatments. Two of the four variables, Personal Adjustment and Nurturance, indicated highly significant pre-test differences (.01 level) between treatments while Intraception indicated a significant difference (.05 level) between treatments. Since none of the post-test differences was significant between

Laboratory and Control-20 treatments, analysis of covariance data are not presented.

The computer program used to test for differences between means for the treatments was presented by Nie et al. (88). The covariance program was presented by Service (105).

Subhypothesis 2a. The mean score for Personal Adjustment will be significantly higher for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 2a are presented in Table 8. The computed t-value of 0.19 did not approach significance. Therefore, subhypothesis 2a was rejected.

Table 8. T tests of post-test data on self-perception

Variable	Group	N	Mean	Standard deviation	T[a] value
Personal adjustment	Laboratory	46	49.20	8.75	-0.19
	Control-20	45	49.58	10.08	
Intraception	Laboratory	46	50.46	11.27	-0.11
	Control-20	45	50.71	10.11	
Nurturance	Laboratory	46	50.39	9.15	-0.95
	Control-20	45	52.07	7.63	
Abasement	Laboratory	46	47.74	8.16	0.75
	Control-20	45	49.02	8.20	

[a]Table values for t (one-tailed) at 89 degrees of freedom are 1.67 at .05 and 2.37 at .01 levels of significance.

Subhypothesis 2b. The mean score for Intraception will be significantly higher for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 2b are presented in Table 8. The t-value computed of 0.11 again did not approach significance. Therefore, subhypothesis 2b was rejected.

Subhypothesis 2c. The mean score for Nurturance will be significantly higher for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 2c are presented in Table 8. The computed t-value of 0.95 did not approach significance. Therefore, subhypothesis 2c was rejected. However, a significant (.05 level) pre-test difference was indicated between the Laboratory and Control-35 treatments on the variable Nurturance (see Table 9). Since there was a post-test significant difference (.05 level) between the two treatments (see Table 10) on the variable Nurturance, analysis of covariance data

Table 9. T test of pre-test data on nurturance

Group	N	Mean	Standard deviation	T[a] value
Laboratory	46	49.83	8.62	2.04*
Control-35	60	53.17	8.16	

[a]Table values for t (one-tailed) at 104 degrees of freedom are 1.66 at .05 and 2.37 at .01 levels of significance.

*Significant at $P<0.05$.

Table 10. T test of post-test data on nurturance

Group	N	Mean	Standard deviation	T[a] value
Laboratory	46	50.39	9.15	2.21*
Control-35	60	54.38	9.27	

[a]Table values for t (one-tailed) at 104 degrees of freedom are 1.66 at .05 and 2.37 at .01 levels of significance.

*Significant at $P<0.05$.

are presented in Table 11 for the Laboratory and Control-35 treatments. These data indicate no significant difference between post-test means adjusted using analysis of covariance.

Table 11. Analysis of covariance on nurturance

Source of variation	DF	Sum of squares	Mean square	F[a] value
Total	105	9252.08		
Covariance	1	5247.06		
Adjusted Total	104	4005.02		
Treatment	1	39.64	39.64	1.03 N.S.
Error	103	3965.38	38.50	

[a]Degrees of freedom for F 1, 103 are 3.94 at .05 and 6.90 at .01 levels of significance.

Subhypothesis 2d. The mean score for Abasement will be significantly lower for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 2d are presented in Table 8. The computed t-value of 0.75 did not approach significance. Therefore, subhypothesis 2d was rejected.

None of the post-test differences between the Laboratory and Control-20 treatments was significant for the variables used in measuring self-perception. In addition, analysis of covariance removed the significant difference between the Laboratory and Control-35 treatments on the variable Nurturance. Therefore, Hypothesis 2 was rejected.

Construct 3: Beliefs about the Educative Process

Hypothesis 3. Beliefs about the educative process will be significantly different for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

Beliefs about the educative process were defined operationally in terms of the eight scale scores from Wehling and Charters' Teacher Conceptions of the Educative Process Questionnaire (127). These scales are Subject Matter Emphasis, Personal Adjustment Ideology, Student Autonomy vs. Teacher Direction, Emotional Disengagement, Consideration of Student Viewpoint, Classroom Order, Student Challenge, and Integrative Learning. The directional subhypotheses for each of these variables are presented with the relevant data.

There were no significant pre-test differences between the Laboratory and Control-20 treatments on any of these eight variables. A significant

(.05 level) pre-test difference was found between the Laboratory and Control-35 treatment on the variable Subject Matter Emphasis (see Table 13). Analysis of covariance data are presented in Table 15 comparing the Laboratory and Control-35 treatments on the variable Subject Matter Emphasis since there was a highly significant post-test difference (.01 level) between the two treatments (see Table 14).

The computer program used to test for differences between means for the treatments was presented by Nie et al. (88) while the covariance program was presented by Service (105).

Subhypothesis 3a. The mean score for Subject Matter Emphasis will be significantly higher (indicating less concern) for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 3a are presented in Table 12. The calculated t-value of 3.31 compared with the table t of 2.37 was significant at the .01 level of probability. Therefore, subhypothesis 3a was supported.

As indicated above, there was a significant difference (.05 level) on the pre-test means between the Laboratory and Control-35 treatments on the variable Subject Matter Emphasis (see Table 13). Analysis of covariance data are presented in Table 15 comparing the two treatments on this variable since there was a highly significant difference (.01 level) between the two treatments on the post-test data (see Table 14). These data indicated an F value of 12.53 which when compared to the table F of 6.90 was highly significant.

Table 12. T tests of post-test data on beliefs about the educative process

Variable	Group	N	Mean	Standard deviation	T[a] value
Subject matter emphasis	Laboratory	46	3.87	0.43	3.31**
	Control-20	45	3.52	0.56	
Personal adjustment ideology	Laboratory	46	2.45	0.49	0.04
	Control-20	45	2.45	0.42	
Student autonomy vs. teacher direction	Laboratory	46	2.93	0.45	2.18*
	Control-20	45	3.15	0.49	
Emotional disengagement	Laboratory	46	4.57	0.59	2.49**
	Control-20	45	4.22	0.73	
Consideration of student viewpoint	Laboratory	46	2.66	0.50	-2.27*
	Control-20	45	2.44	0.39	
Classroom order	Laboratory	46	3.66	0.52	2.64**
	Control 20	45	3.35	0.61	
Student challenge	Laboratory	46	2.58	0.49	1.26
	Control-20	45	2.46	0.44	
Integrative learning	Laboratory	46	2.63	0.51	-3.20**
	Control-20	45	2.32	0.44	

[a]Table values for t (one-tailed) at 89 degrees of freedom are 1.67 at .05 and 2.37 at .01 levels of significance.

*Significant at $P<0.05$.

**Significant at $P<0.01$.

Table 13. T test of pre-test data on subject matter emphasis

Group	N	Mean	Standard deviation	T[a] value
Laboratory	46	3.62	0.46	1.88*
Control-35	60	3.45	0.47	

[a]Table values for t (one-tailed) at 104 degrees of freedom are 1.66 at .05 and 2.37 at .01 levels of significance.

*Significant at P<0.05.

Table 14. T test of post-test data on subject matter emphasis

Group	N	Mean	Standard deviation	T[a] value
Laboratory	46	3.87	0.43	4.06**
Control-35	60	3.49	0.51	

[a]Table values for t (one-tailed) at 104 degrees of freedom are 1.66 at .05 and 2.37 at .01 levels of significance.

**Significant at P<0.01.

Table 15. Analysis of covariance on subject matter emphasis

Source of variation	DF	Sums of squares	Mean square	F[a] value
Total	105	27.43		
Covariance	1	8.79		
Adjusted total	104	18.64		
Treatment	1	2.02	2.02	12.53**
Error	103	16.62	.16	

[a]Table values for F 1, 103 are 3.94 at .05 and 6.90 at .01 levels of significance.

**Significant at P<0.01.

Subhypothesis 3b. The mean score for Personal Adjustment Ideology will be significantly lower (indicating more concern) for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 3b are presented in Table 12. The computed t-value of 0.04 did not approach significance. Therefore, subhypothesis 3b was rejected.

Subhypothesis 3c. The mean score for Student Autonomy vs. Teacher Direction will be significantly lower (indicating a more favorable attitude to student autonomy) for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 3c are presented in Table 12. The calculated t-value of 2.18 compared with the table t of 1.66 was significant. Therefore, subhypothesis 3c was supported.

Subhypothesis 3d. The mean score for Emotional Disengagement will be significantly higher (indicating less concern) for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 3d are presented in Table 12. The calculated t-value of 2.49 compared with the table t of 2.365 was significant at the .01 level of probability. Therefore, subhypothesis 3d was supported.

Subhypothesis 3e. The mean score for Consideration of Student Viewpoint will be significantly lower (indicating more concern) for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 3e are presented in Table 12. The calculated t-value of 2.27 was opposite the direction hypothesized. Therefore, subhypothesis 3e was rejected.

Subhypothesis 3f. The mean score for Classroom Order will be significantly higher (indicating less concern) for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 3f are presented in Table 12. The calculated t-value of 2.64 compared with the table t of 2.365 is significant at the .01 level of probability. Therefore, subhypothesis 3f was supported.

Subhypothesis 3g. The mean score for Student Challenge will be significantly higher (indicating less concern) for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

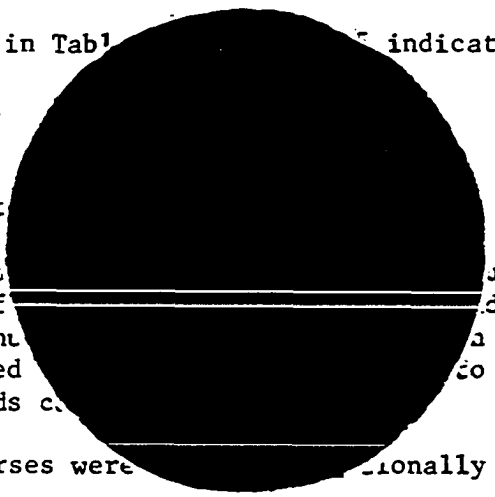
The post-test data used in testing subhypothesis 3g are presented in Table 12. The calculated t-value of 1.26 compared with the table t of 1.66 was not significant. Therefore, subhypothesis 3g was rejected.

Subhypothesis 3h. The mean score for Integrative Learning will be significantly lower (indicating more concern) for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 3h are presented in Table 12. The calculated t-value of 3.20 was opposite the direction hypothesized. Therefore, subhypothesis 3h was rejected.

The data presented in Table 12 showed that there were four variables (Subject Matter Emphasis, Student Autonomy vs. Teacher Direction, Emotional Disengagement, and Classroom Order) on which there were significant differ-

ences in the hypothesized direction between students trained in a human relations laboratory and those trained in a traditional approach to a general methods course. These four subhypotheses were supported. The data presented in Table 12 also showed that there were two variables (Consideration of Student Viewpoint and Integrative Learning) on which there were significant differences opposite the direction hypothesized. These two subhypotheses were rejected as well as the subhypotheses related to the variables Personal Adjustment Ideology and Student Challenge on which the statistical differences between groups were not significant. In addition, an analysis of covariance showed a highly significant difference between the Laboratory and Control-35 treatments on the variable Subject Matter Emphasis. Data presented in Tab[illegible] indicate that Hypothesis 3 was partially supported.



Construct[illegible]

Hypothesis 4. Attitu[illegible]urse will be signif[illegible]dents trained in a hu[illegible]n for students trained [illegible]o a general methods c[illegible]

Attitudes toward courses were [illegible]tionally in terms of the two questions from the Iowa State University Government of the Student Body Instructor Evaluation Device which measure student attitude toward course content and attitude toward the instructor. The directional subhypotheses for each of these variables are presented with the relevant data.

The computer program used with this data combined the answers for each item for each member of the group and produced the mean, variance, and standard deviation for the item.

Subhypothesis 4a. The mean score for Attitude toward Course Content will be significantly higher for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 4a are presented in Table 16. The calculated t-value of 2.41 compared with the table t of 2.37 was significant at the .01 level of probability. Therefore, subhypothesis 4a was supported.

Table 16. T tests of post-test data on attitudes toward courses

Variable	Group	N	Mean	Standard deviation	t[a] value
Attitude toward course content	Laboratory	46	4.23	0.91	2.41**
	Control-20	45	3.70	1.19	
Attitude toward instructor	Laboratory	46	4.36	0.89	1.81*
	Control-20	45	3.93	1.33	

[a]Table values for t (one-tailed) at 89 degrees of freedom are 1.67 at .05 and 2.37 at .01 levels of significance.

*Significant at $P<0.05$.

**Significant at $P<0.01$.

Subhypothesis 4b. The mean score for Attitude toward Instructor will be significantly higher for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 4b are presented in Table 16. The calculated t-value of 1.81 compared with the table t of 1.66 was significant at the .05 level of probability. Therefore, hypothesis 4b was supported.

ences in the hypothesized direction between students trained in a human relations laboratory and those trained in a traditional approach to a general methods course. These four subhypotheses were supported. The data presented in Table 12 also showed that there were two variables (Consideration of Student Viewpoint and Integrative Learning) on which there were significant differences opposite the direction hypothesized. These two subhypotheses were rejected as well as the subhypotheses related to the variables Personal Adjustment Ideology and Student Challenge on which the statistical differences between groups were not significant. In addition, an analysis of covariance showed a highly significant difference between the Laboratory and Control-35 treatments on the variable Subject Matter Emphasis. Data presented in Tables 12 through 15 indicate that Hypothesis 3 was partially supported.

Construct 4: Attitudes toward Courses

Hypothesis 4. Attitude toward a general methods course will be significantly more favorable for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

Attitudes toward courses were defined operationally in terms of the two questions from the Iowa State University Government of the Student Body Instructor Evaluation Device which measure student attitude toward course content and attitude toward the instructor. The directional subhypotheses for each of these variables are presented with the relevant data.

The computer program used with this data combined the answers for each item for each member of the group and produced the mean, variance, and standard deviation for the item.

Subhypothesis 4a. The mean score for Attitude toward Course Content will be significantly higher for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 4a are presented in Table 16. The calculated t-value of 2.41 compared with the table t of 2.37 was significant at the .01 level of probability. Therefore, subhypothesis 4a was supported.

Table 16. T tests of post-test data on attitudes toward courses

Variable	Group	N	Mean	Standard deviation	T[a] value
Attitude toward course content	Laboratory	46	4.23	0.91	2.41**
	Control-20	45	3.70	1.19	
Attitude toward instructor	Laboratory	46	4.36	0.89	1.81*
	Control-20	45	3.93	1.33	

[a]Table values for t (one-tailed) at 89 degrees of freedom are 1.67 at .05 and 2.37 at .01 levels of significance.

*Significant at $P<0.05$.

**Significant at $P<0.01$.

Subhypothesis 4b. The mean score for Attitude toward Instructor will be significantly higher for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 4b are presented in Table 16. The calculated t-value of 1.81 compared with the table t of 1.66 was significant at the .05 level of probability. Therefore, hypothesis 4b was supported.

The data presented in Table 16 indicate that there was a highly significant difference in the direction hypothesized on the variable Attitude toward Course Content between students trained in a human relations laboratory and those trained in a traditional approach to a general methods course. The data presented in Table 16 also indicated a significant difference in the direction hypothesized on the variable Attitude toward Instructor between the two groups. The two subhypotheses were supported, and, therefore, Hypothesis 4 was supported.

Construct 5: Indirect Verbal Behavior

Hypothesis 5. Verbal behavior in the microteaching setting will be more indirect (include more of the type of teacher behaviors which encourage pupil participation in the activities of the classroom) for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

Indirect Verbal Behavior was defined operationally in terms of the revised i/d ratio included in the Flanders Interaction Analysis system (6).

The program for processing the raw data from the Flanders' Interaction Analysis was prepared specifically for this purpose. The data from the categories of the Flanders' system appropriate to determining the indirect i/d ratio were used with a program specifically prepared for that purpose.

The data used in testing Hypothesis 5 are presented in Table 17. The computed t-value of 0.50 did not approach significance. Therefore, Hypothesis 5 was rejected.

Table 17. T test of data on indirect verbal behavior

Group	N	Mean	Standard deviation	T[a] value
Laboratory	15	0.62	0.06	0.84
Control-20	15	0.68	0.24	

[a]Table values for t (one-tailed) at 28 degrees of freedom are 1.70 at .05 and 2.47 at .01 levels of significance.

Construct 6: Behavior in Interpersonal Situations

Hypothesis 6. Behavior in interpersonal situations will be significantly different for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course.

Behavior in Interpersonal Situations was defined operationally in terms of the six scale scores from Schutz's Fundamental Interpersonal Relations Orientation--Behavior questionnaire (101). These scales are Expressed Inclusion, Wanted Inclusion, Expressed Control, Wanted Control, Expressed Affection, and Wanted Affection. The directional subhypotheses for each of these variables are presented with the relevant data.

In addition to the F statistic used to test the subhypotheses on the construct Behavior in Interpersonal Situations(see below), t tests showed that two of the six variables, Expressed Control and Wanted Control, had significant pre-test mean differences between the Laboratory and the Control-20 groups. Since t tests of the post-test means were not significant between the laboratory and Control-20 treatments, t test and analysis of covariance data are not presented.

T tests also showed that one of the six variables, Wanted Inclusion, had a significant difference between the Laboratory and Control-35 groups on the pre-test. Since t tests on the post-test means between the Laboratory and Control-35 groups on all six variables were not significant, t test and analysis of covariance data are not presented.

The computer program used in determining the mean, standard deviation, and to test for differences between means for the treatments was presented by Nie et al. (88).

Subhypothesis 6a. There will be significantly less variance in Expressed Inclusion for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 6a are presented in Table 18. The calculated F-value of 1.89 compared with the table F of 1.64 was significant. Therefore, subhypothesis 6a was supported.

Subhypothesis 6b. There will be significantly less variance in Wanted Inclusion for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 6b are presented in Table 18. The calculated F-value of 1.09 compared with the table F of 1.64 was not significant. Therefore, subhypothesis 6b was rejected.

Subhypothesis 6c. There will be significantly less variance in Expressed Control for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 6c are presented in Table 18. The calculated F-value of 1.17 compared with the table F of 1.64 was not significant. Therefore, subhypothesis 6c was rejected.

Table 18. F tests of post-test data on homogeneity of variance

Variable	Group	N	Mean	Variance	F
Expressed Inclusion	Laboratory	46	5.48	2.97	1.89*[a]
	Control-20	45	5.11	5.60	
Wanted Inclusion	Laboratory	46	4.87	11.54	1.09[a]
	Control-20	45	5.13	12.52	
Expressed Control	Laboratory	46	2.98	4.91	1.17[a]
	Control-20	45	3.58	5.75	
Wanted Control	Laboratory	46	3.57	4.34	-1.26[b]
	Control-20	45	3.84	3.45	
Expressed Affection	Laboratory	46	4.74	5.66	1.04[a]
	Control-20	45	4.49	5.89	
Wanted Affection	Laboratory	46	5.30	5.64	1.22[a]
	Control-20	45	5.31	6.85	

[a]Table values for F 44, 45 are 1.64 at .05 and 2.02 at .01 levels of significance.

[b]Table values for F 45, 44 are 1.65 at .05 and 2.03 at .01 levels of significance.

*Significant at $P<0.05$.

Subhypothesis 6d. There will be significantly less variance in Wanted Control for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

Table 18 presents the post-test data used in testing subhypothesis 6d. The calculated F-value of 1.26 compared with the table F of 1.65 was not significant. Therefore, subhypothesis 6d was rejected.

Subhypothesis 6e. There will be significantly less variance in Expressed Affection for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

Table 18 presents the post-test data used in testing subhypothesis 6e. The calculated F-value of 1.04 compared with the table F of 1.64 was not significant. Therefore, subhypothesis 6e was rejected.

Subhypothesis 6f. There will be significantly less variance in Wanted Affection for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course.

The post-test data used in testing subhypothesis 6f are presented in Table 18. The calculated F-value of 1.22 compared with the table F of 1.64 was not significant. Therefore, subhypothesis 6f was rejected.

Data on one of the eight variables used in measuring Behavior in Interpersonal Situations, Expressed Inclusion, was significant. However, six of the seven remaining variables showed F-values of 1.04 or larger in the direction hypothesized. One variable, Wanted Control, showed more post-test variance for the Laboratory than the Control-20 group. Data presented in Table 18 indicate that Hypothesis 6 was partially supported.

CHAPTER V. DISCUSSION, RECOMMENDATIONS, AND SUMMARY

A discussion of the findings of the study is presented in Chapter V. The findings will be presented in terms of each construct examined. In addition, the limitations of the study, conclusions, and recommendations for further research are presented. The chapter closes with a summary of the research.

Six constructs were measured in an effort to test the research hypothesis that education students who participate in a structured human relations laboratory will demonstrate attitudes and behaviors which are significantly different from those of students trained in a traditional approach to a general methods course. Only one specific hypothesis derived from the research hypothesis, as determined by the data presented, was supported. Two specific hypotheses were partially supported by the data, and the remaining three hypotheses were rejected.

Limitations

The Interaction Laboratory for Teacher Development was not used in its entirety. This may account in part for the lack of support for the hypotheses tested. The activities of the Laboratory were used, combined, or omitted, based upon the advice of a teacher educator who had worked with the Laboratory for several years (1). Empirical data were not available for use in making these decisions.

If one accepted Back's scheme of sensitivity and related experiences (page 12), the Laboratory seems to lay in the area of "training-education." According to Back, this is an area of weak impact in the scheme. The location of the Laboratory in the scheme of sensitivity and related experiences appears to have implications for the results of the research.

The research reported here was of an investigatory nature. To this investigator's knowledge, there was no prior empirical research in the literature involving use of the Interaction Laboratory in pre-service teacher education.

The above limitations appear to have implications relative to the results and interpretation of the results of this experiment.

Construct 1: Interpersonal Communication

According to Kurpius (72) and as defined by this researcher, there was a construct Interpersonal Communication. The construct was defined operationally in terms of the score obtained on the Hill Interaction Matrix (58). However, the t value of 0.41 indicated no statistically significant difference between the Laboratory and Control-20 subjects on this variable. Therefore, the hypothesis that the level of interpersonal communication would be significantly higher for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was rejected.

Analysis of the differences in Interpersonal Communication between sections within the Laboratory and Control-20 groups (there were three Laboratory and three Control-20 sections in each group) indicated differences between the subgroups. Highly significant differences were found in interpersonal communication between the section led by instructor 1 compared with that led by instructor 3 for both the Laboratory and Control-20 sections. A highly significant difference was also found in level of interpersonal communication when the Laboratory group led by instructor 2 was

compared with that led by instructor 3. This was not true when comparing the groups led by instructors 2 and 3 for the Control-20 sections.

From the data presented, it appears that the different instructors affected their students in different ways. Support for such an effect on students by their instructors has been suggested in the literature (78). In this case, it would seem that the level of Interpersonal Communication depended more upon the instructor and the leadership provided the group than upon the students.

Construct 2: Self-perception

None of the mean differences on the four variables measured in examining the construct Self-perception as defined in this study approached statistical significance. These variables were Personal Adjustment, Intraception, Nurturance, and Abasement from Gough and Heilbrun's The Adjective Check List (50). Since none of these differences approached significance, the hypothesis that self-perception would be significantly different for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course was rejected. These results seem to indicate that personality variables are not significantly affected by the Interaction Laboratory for Teacher Development.

These results appear consistent with previous research in pre-service teacher education (23, 51, 121, 125), where it was also determined that personality variables were not significantly affected by a human relations laboratory. Reviewers of research on sensitivity training, both in education and management development (25, 29), seem also to have reached the

same conclusion. Research reviewed on in-service teachers indicated mixed results on personality variables (19, 68, 70, 74).

Construct 3: Beliefs about the Educative Process

Four of the eight variables measured in examining the construct Beliefs about the Educative Process indicated significant differences in the hypothesized direction between subjects in the Laboratory and Control-20 groups. These variables were: Subject Matter Emphasis ($P<.01$); Student Autonomy vs. Teacher Direction ($P<.05$); Emotional Disengagement ($P<.01$); and Classroom Order ($P<.01$). Data on two variables, Personal Adjustment Ideology and Student Challenge, indicated no significant differences between groups.

Significant differences between the Laboratory and Control-20 subjects were also indicated on two variables, Consideration of Student Viewpoint ($P<.05$) and Integrative Learning ($P<.01$). However, these differences were opposite the direction hypothesized by the researcher. These results appear to confound the initial interpretation of the data presented on the construct Beliefs about the Educative Process. An analysis of the results on these two variables follows.

According to the developers of the Teacher Conceptions of the Educative Process Questionnaire (TCEPQ), the scale Consideration of Student Viewpoint

> . . . represents teacher acceptance of empathy as an instructional strategy. For the teacher effectively to influence students, he must have the capacity to take their perspective on the world and to give them his warmth and personal support as needed. He must be sensitive to the feelings of students and display friendliness and consideration in his relations with them . . . (127, p. 14).

This definition of Consideration of Student Viewpoint, together with knowledge of the objectives of the Laboratory, would seem to indicate a hypothesis that greater concern for the student point of view would be expressed by subjects in the Interaction Laboratory.

However, after indicating that all eight dimensions of the TCEPQ were substantially independent of one another, Wehling and Charters pointed out that descriptions of some of their dimensions ". . . seem to imply, on logical or perhaps semantic grounds, connections among them" (127, p. 21). They argued to the contrary when they indicated that

> In the case of Consideration of Student Viewpoint and Emotional Disengagement, two dimensions of belief that would seem to be incompatible and, thus, negatively related to one another, the dependency may be more apparent than real. We feel there is no inconsistency in believing that the teacher should appreciate as fully as possible the feelings and views of students, even display warmth and affection toward them (Consideration of Student Viewpoint), and at the same time believing that the teacher must not become too personally involved in student affairs (Emotional Disengagement) . . . (127, p. 21).

The argument presented seems logical, yet the data in this experiment indicated quite the opposite. Specifically, the data indicated that the Laboratory subjects were more willing to be emotionally involved with students than the control subjects, and yet they were less considerate of the student's viewpoint. Perhaps these data support Loree (78) when he indicated that

> There is some evidence of a relationship between teachers' beliefs and . . . the behavior of the teacher in the classroom . . . . However, there remains much to be learned concerning the conditions under which behaviors and beliefs correspond (78, p. 102).

The results of this research appear to indicate that pre-service teachers who participated in the Laboratory were more favorable in attitude toward

emotional involvement with students. However, when given opportunity to indicate how they would behave in relation to students, the Laboratory subjects gave less consideration to the student viewpoint than the Control-20 subjects.

An alternative hypothesis for explaining this situation might be that, if teacher educators wish to develop teachers who are emotionally involved with their students, a model or set of behaviors must be provided for developing this emotional involvement. To assume transfer from attitude to behavior without such a model may be difficult, if not impossible.

A third possible explanation for these confusing results might be that a construct was identified and particular variables were chosen to measure that construct. However, for some unknown reason, there is no consistency in the data results.

The second variable on which the data presented were opposite the direction hypothesized was Integrative Learning. According to Wehling and Charters, Integrative Learning

> . . . represents the teacher's belief that students "truly understand" what they are taught only when they are brought to see relationships between the subject at hand and broader aspects of their world or are able to connect the subject to their own experiences. In this view, learning extends beyond the confines of a single course or grade to encompass the more generalized goals of education. The belief deals with teaching methods, but it also reflects on conception of learning as the acquisition of meanings, not just facts (127, pp. 14-15).

The importance of integrating knowledge across curricular lines was not considered in the Laboratory. The focus in the Laboratory was on relationships between people in the educational setting. At the same time, the Control-20 subjects studied more traditional topics found in a general methods course such as objectives of instruction, sequencing and planning

instruction, various methods and techniques available in instruction, and evaluation of instruction (see the syllabus in Appendix C). As a result of dealing with these topics, the data presented indicate a greater concern on the part of the control subjects for integrating knowledge. To have hypothesized greater concern for Integrative Learning without providing the pre-service teacher basic cognitive knowledge and skills seems an erroneous assumption on the part of the investigator.

It would appear, given the data and the analysis presented, that there is a construct Beliefs about the Educative Process which can be measured. It also appears that the Laboratory affected attitudes of pre-service teachers in that it seemed to develop significantly less concern for Subject Matter, Emotional Disengagement, and Classroom Order and more concern for Student Autonomy. These results seem also to indicate that the Laboratory did not affect attitudes of pre-service teachers in terms of Personal Adjustment Ideology and Student Challenge. The data presented on Consideration of Student Viewpoint and Integrative Learning confound the indications on this construct but not sufficiently to reject the hypothesis. Therefore, the hypothesis that beliefs about the educative process will be significantly different for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was partially supported.

Construct 4: Attitude toward Courses

The Iowa State University Government of the Student Body Instructor Evaluation Device was used to examine the construct Attitude toward Courses. Significant differences between the Laboratory and the Control-20

subjects were presented on both variables, Attitude toward Course Content ($P<.01$) and Attitude toward Instructor ($P<.05$). These results were entirely consistent with previous studies (23, 80, 84, 121, 125) in pre-service teacher education where a form of human relations training was used in the experimental treatment. None of the research reviewed evaluated attitude toward the instructor. It seems reasonable, however, that if students held a favorable attitude toward an experience, they would probably hold a favorable attitude toward the instructor.

It appears to the investigator that given the data and the analysis presented that there is a construct Attitude toward Courses which can be measured. It also appears that the Laboratory and the instructor are viewed more favorably by Laboratory students. Therefore, the hypothesis that attitude toward a general methods course would be significantly more favorable for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was supported.

Construct 5: Indirect Verbal Behavior

As defined by Amidon and Flanders (6) and presented in this research, the construct Indirect Verbal Behavior is teacher verbal behavior which encourages the student to participate in class discussion by allowing him greater freedom of action. The results of this research indicated no statistically significant difference between the Laboratory and the Control-20 microteachers on this variable. However, this does not mean that the microteachers were using teaching behavior which discouraged pupil participation in class activities. A revised i/d ratio above 0.5 in the Flanders

system indicates more indirect than direct statements on the part of the teachers. In this study the mean ratio for indirect verbal behavior in the Laboratory subjects was 0.62 and for the Control-20 subjects 0.68. The fact that the difference between groups was not statistically significant required the hypothesis that verbal behavior in the microteaching setting would be more indirect for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course be rejected.

Reliability of raters on the taped microteaching presentations over time was a particular problem in evaluating the data presented on this construct. Spearman-Brown average interitem correlations of 0.01 and 0.20 indicated poor intrarater reliability for the two teaching presentations evaluated. Therefore, Scott's Coefficient was used. Scott's Coefficient indicated 0.62 and 0.79 average reliability of the two raters over time for the two teaching presentations evaluated.

Instruction in the use of the Flanders system was not given to either Laboratory or Control-20 groups. To expect pre-service teachers to demonstrate such concerns without being presented a specific behavior model is perhaps an inappropriate expectation. This was supported by Maxey (82) whose research indicated that not until after instruction in Flanders' Interaction Analysis system were differences in microteaching behavior observed in an experiment which involved sensitivity training and instruction in the Flanders system.

Construct 6: Behavior in Interpersonal Situations

It was hypothesized that there would be less variance for the Laboratory subjects when compared with the Control-20 subjects on the six variables measured relative to the construct Behavior in Interpersonal Situations. Of the six variables in Schutz's Fundamental Interpersonal Relations Orientation--Behavior questionnaire (FIRO-B) (101) (Expressed Inclusion, Wanted Inclusion, Expressed Control, Wanted Control, Expressed Affection, and Wanted Affection), only one indicated a statistically significant F ratio between the Laboratory and Control-20 subjects. That variable was Expressed Inclusion ($P<.05$), the data on which indicated significantly less variance for the Laboratory subjects. Four of the five remaining variables (Wanted Inclusion, Expressed Control, Expressed Affection, and Wanted Affection), in terms of the variance of the data from the mean, supported the hypothesis of less variance for the Laboratory subjects though they were not statistically significant. On one variable, Wanted Control, the data indicated less variance for the Control-20 group though the difference again was not statistically significant. Analysis of these results involves assessment of the effect of the Laboratory and what the FIRO-B questionnaire purports to measure.

The developers of the Laboratory indicated that

> . . . the training program utilizes the group setting to allow each individual to examine his or her style of interacting with others. [The activities of the laboratory] . . . allow students to receive feedback about their effectiveness with other people. . . (119, p. 1).

They also suggested that through the use of constructive feedback in the Laboratory, ". . . it is hoped individual students will gain insight into their personal style of interacting with others . . ." (119, p. 10). Thus

the objectives of the Laboratory seem to indicate that one of its major goals was to provide participants with information about the way they behaved in interpersonal situations.

Schutz's FIRO theory (102) identified three types of interpersonal behavior: ". . . (1) deficient--indicating that the individual is not trying directly to satisfy the need, (2) excessive--indicating that the individual is constantly trying to satisfy the need, and (3) ideal--indicating satisfaction of the need. . ." (102, p. 25). This "ideal" type of interpersonal behavior, according to the FIRO theory, is found between the two extreme forms of behavior. Such "ideal" behavior appears to be the type established as an objective for the participants in the Interaction Laboratory for Teacher Development.

The hypothesis that behavior in interpersonal situations will be significantly different for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was partially supported by the data presented. The data on the variable Expressed Inclusion indicated a significant difference favoring the Laboratory subjects. The data on four of the five remaining variables measured did not reach significance, but their direction supported the hypothesis of less variance for Laboratory students. These results, together with the analysis of the objectives of the Laboratory and the FIRO-B questionnaire, strengthen the support for this hypothesis.

Conclusion

As was indicated in the introduction to Chapter V, only one specific hypothesis derived from the research hypothesis was supported by the data

presented. This hypothesis concerned the construct "attitudes toward courses." Two specific hypotheses dealing with the constructs "beliefs about the educative process" and "behavior in interpersonal situations" were partially supported by the data of the study. The three remaining hypotheses were rejected. These hypotheses concerned the constructs "interpersonal communication," "self-perception," and "indirect verbal behavior." It would appear that these data are sufficient to reject the research hypothesis that education students who participate in a structured human relations laboratory will demonstrate attitudes and behaviors which are significantly different from those of students trained in a traditional approach to a general methods course. Rejection of the research hypothesis is particularly requisite as a result of considering that the Hawthorne effect could well have influenced the data presented on the hypothesis dealing with "attitudes toward courses," the only hypothesis supported by the data of the study.

Recommendations for Further Study

Recommendations for further study will be discussed in terms of the present experiment and its implications for future research. The aspects discussed are the Laboratory, subjects, instructors, and measurement of constructs.

The data presented in this study would suggest that those who plan to use the Interaction Laboratory for Teacher Development as a form of human relations training in a pre-service teacher education program proceed with caution. These results should also stimulate the developers of the Interaction Laboratory to gather additional empirical data in a further effort

to determine specifically which attitudes and behaviors of pre-service teachers are changed through participation in the Laboratory.

If one considers the results of this study sufficient to indicate some tentative value for this form of human relations training, several recommendations for further study are presented below. These might also well be considered by the developers of the Laboratory as they plan further testing, development, and improvement of their product.

Inasmuch as the entire Interaction Laboratory for Teacher Development was not used in this study, the impact of the Laboratory as a whole needs to be assessed for pre-service teachers. Another approach to evaluating the Laboratory should involve further modification in terms of the topics discussed in the activities of the Laboratory. It appeared to the researcher that some of the discussion topics were difficult to relate to for the teacher education students involved. For example, one of the discussion topics was "A passive student is more difficult to work with than a hostile, aggressive student" (119, pp. 4-6). This topic requires experience functioning with students before the problem involved is apparent.

Further modification of the Laboratory in order that the experience might be found in an area of stronger impact in Back's scheme of sensitivity and related experiences (9) appears to be appropriate for further investigation. Such an approach would probably involve adding teacher oriented activities of a more confrontive nature. Such an approach might require a skilled trainer which would eliminate one advantage of the Interaction Laboratory as presently structured.

The Interaction Laboratory for Teacher Development also needs to be compared with other approaches to human relations training. Such an inves-

tigation would indicate the differential impact of the various approaches to human relations training. These results would make it possible for teacher educators to determine which, if any, human relations component should be included in the teacher education program.

Pre-service teachers who have been trained in the Interaction Laboratory, together with their control subjects, need to be evaluated in the classroom as student teachers. Such empirical data would make it possible to assess student teacher behavior and attitudes in the classroom in order to determine what, if any, differences existed between Laboratory trained and traditionally trained pre-service teachers. If differences did exist at that point, the subjects would then need to be evaluated in the classroom as fully certified professionals. It seems that evaluation of the practicing teacher would provide the most important assessment of the value and effect of a structured human relations laboratory on teacher education students.

The effect of different instructors relative to their impact on teacher education students in both the human relations laboratory and the traditional approach to a general methods course needs further investigation. Differential effect of instructors was indicated in one post hoc assessment of the data presented in this study. Another approach to assessment of the impact of instructors on students might be through identification of teacher educators who leaned more heavily on lecture as a method of instruction in the general methods course. Measurement of constructs similar to those used in this study would provide a more precise assessment of a human relations approach and a lecture approach to instruction.

The data presented in this study indicated differences between students trained in a human relations laboratory and those trained in a more

traditional general methods course. However, the results presented on the construct Beliefs about the Educative Process were mixed. The dimensions Consideration of Student Viewpoint and Emotional Disengagement in the Teacher Conceptions of the Educative Process Questionnaire need further investigation. This investigation should focus on the cause for the seemingly contradictory results on these two dimensions as presented in this study.

In addition, mixed results were also apparent for the construct Behavior in Interpersonal Situations. These two constructs bear further evaluation and perhaps redefinition. In addition, more precise instruments need to be identified or developed to assess the differences in effect on students between the human relations approach and a more traditional approach to a general methods course.

Finally, if a system such as Flanders Interaction Analysis is used to evaluate behavior, efforts need to be made to assure that the raters are evaluating the same interaction. This would aid in improving reliability between raters as well as over time for each rater.

Summary

This study was designed to test the research hypothesis that education students who participate in a structured human relations laboratory will demonstrate attitudes and behaviors which are significantly different from those of students trained in a traditional approach to a general methods course. Six hypotheses were developed to examine the constructs interpersonal communication in groups, individual self-perception, beliefs about

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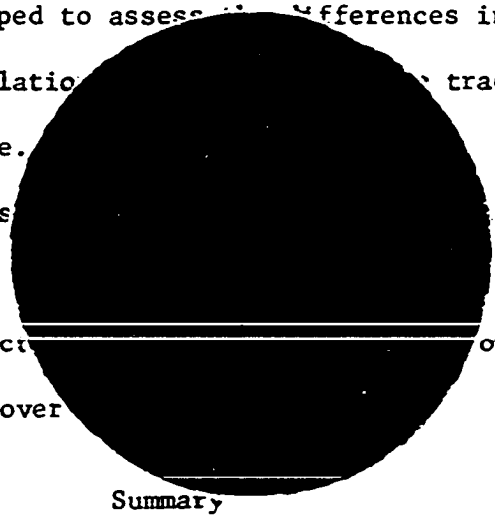

Summary

This study was designed to test the research hypothesis that education students who participate in a structured human relations laboratory will demonstrate attitudes and behaviors which are significantly different from those of students trained in a traditional approach to a general methods course. Six hypotheses were developed to examine the constructs interpersonal communication in groups, individual self-perception, beliefs about

the educative process, attitudes toward courses, verbal behavior in a teaching setting, and behavior in interpersonal situations.

One treatment involved the activities of the Interaction Laboratory for Teacher Development which was adapted to fit the time constraints of the quarter system. The Laboratory is a structured human relations training program designed to provide training in human relations skills related to teaching. The second treatment was given the control group (Control-20) and used a traditional approach to a general methods course involving lecture, class discussion, and student presentations.

The experiment was conducted in eight of ten sections of Education 305A, Methods of Teaching (Secondary), at Iowa State University during Winter Quarter, 1973. Students were randomly assigned to the two treatments for a total of three sections of the Laboratory and three sections of Control-20 subjects. Two intact sections of Education 305A were used to control for size and were of the more traditional class size with a limit of thirty-five members (designated Control-35). Data were completed for forty-six students in three Laboratory sections, forty-five students in three Control-20 sections, and sixty students in two Control-35 sections.

Data from the Laboratory and Control-20 subjects were analyzed using conventional models involving an unequal number of subjects in the groups. Data from Control-35 subjects were analyzed in the same manner. Only those data were presented for the Control-35 subjects where significant differences were found which were unlike those from the Laboratory and Control-20 subjects.

Six constructs were identified and defined in this study. Each construct was further defined operationally in terms of a measurement instru-

ment. Data were collected and the hypothesis related to each construct tested. The results are presented below.

Interpersonal communication

The construct Interpersonal Communication was defined operationally in terms of the score obtained on the Hill Interaction Matrix. Three raters evaluated the taped discussions. The t value of 0.41 indicated no statistically significant difference between the Laboratory and Control-20 subjects on this variable. Therefore, the hypothesis that the level of interpersonal communication would be significantly higher for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was rejected. However, some significant differences were found in the level of Interpersonal Communication between the subgroups within each of the treatments. Although these results are not entirely consistent, it appears in this study that the level of interpersonal communication depended upon the instructor.

Self-perception

Self-perception as a construct was defined operationally in terms of four scale scores from Gough and Heilbrun's The Adjective Check List. These scale scores were Personal Adjustment, Intraception, Nurturance, and Abasement. Since none of the differences between the Laboratory and Control-20 treatments approached significance, the hypothesis that self-perception would be significantly different for students trained in a human relations laboratory than for education students trained in a traditional approach to a general methods course was rejected.

Beliefs about the educative process

The eight scales of the Teacher Conceptions of the Educative Process Questionnaire were used to define operationally the construct Beliefs about the Educative Process. Four scale scores indicated significant differences in the hypothesized direction favoring subjects in the Laboratory over the Control-20 groups. These scales were Subject Matter Emphasis ($P<.01$); Student Autonomy vs. Teacher Direction ($P<.05$); Emotional Disengagement ($P<.01$); and Classroom Order ($P<.01$). Data on two scales, Personal Adjustment Ideology and Student Challenge, indicated no significant differences between groups. Significant differences favoring the Control-20 over the Laboratory subjects and opposite the direction hypothesized were indicated on two scale scores, Consideration of Student Viewpoint ($P<.05$) and Integrative Learning ($P<.01$). It would appear, given the data of this study, that there is a construct Beliefs about the Educative Process which can be measured. It also appears that the Laboratory affected attitudes of pre-service teachers in terms of less concern for Subject Matter, Emotional Disengagement, and Classroom Order and more concern for Student Autonomy. The data also indicated that the Laboratory did not affect attitudes of pre-service teachers in terms of Personal Adjustment Ideology and Student Challenge. The data on Consideration of Student Viewpoint and Integrative Learning confound the indications on the construct Beliefs about the Educative Process. The hypothesis that beliefs about the educative process will be significantly different for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was partially supported.

Attitudes toward courses

The construct Attitudes toward Courses was defined operationally in terms of data from two questions in the Iowa State University Government of the Student Body Instructor Evaluation Device. Significant differences favoring the Laboratory over the Control-20 subjects were indicated on both variables, Attitude toward Course Content ($P<.01$) and Attitude toward Instructor ($P<.05$). The data indicated there is a construct Attitude toward Courses which can be measured. The hypothesis that attitude toward a general methods course would be significantly more favorable for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was supported.

Indirect verbal behavior

Indirect Verbal Behavior as a construct was defined operationally by the revised i/d ratio in the Flanders Interaction Analysis system. Five students were randomly chosen from each of the Education 305A sections involved in the experiment and directed to prepare three five- to eight-minute lessons which would be video-taped. Two raters evaluated the taped presentations. The t value of 0.50 indicated no statistically significant difference between the Laboratory and the Control-20 subjects on this construct. Therefore, the hypothesis that verbal behavior in the microteaching setting would be more indirect for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was rejected.

Behavior in interpersonal situations

The six scales of Schutz's Fundamental Interpersonal Relations Orientation--Behavior questionnaire were used to define operationally the construct Behavior in Interpersonal Situations. These scales were Expressed Inclusion, Wanted Inclusion, Expressed Control, Wanted Control, Expressed Affection, and Wanted Affection. The data from one scale, Expressed Inclusion, indicated significantly less variance for the Laboratory subjects ($p<.05$) over the Control-20 subjects. Data on four of the five remaining scales (Wanted Inclusion, Expressed Control, Expressed Affection, and Wanted Affection), in relation to the hypothesis of less variance for the Laboratory subjects, supported the hypothesis although the differences were not statistically significant. Data on Wanted Control indicated less variance for the Control-20 subjects. Here again the difference was not statistically significant. The hypothesis that behavior in interpersonal situations will be significantly different for students trained in a human relations laboratory than for students trained in a traditional approach to a general methods course was partially supported by the data presented.

Conclusion

Based on the data of the study, the research hypothesis that education students who participate in a structured human relations laboratory will demonstrate attitudes and behaviors which are significantly different from those of students trained in a traditional approach to a general methods course was rejected. The extensive data presented in the study should cause those who plan to use the Interaction Laboratory for Teacher Development as a form of human relations training in a pre-service teacher education program to proceed with caution.

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APPENDIX A:

EXERCISES IN THE INTERACTION LABORATORY FOR TEACHER DEVELOPMENT

Exercise	Name	Rating	Description	Use
	BASIC COMMUNICATION SKILLS			
1	Student introduction and situational teaching incidents	1	Establish informal atmosphere of laboratory; students react to 16 incidents involving teachers; discussion.	Included
2	One-to-one communication	1	Demonstration of one-way and two-way communication; discussion of communication problems facing teachers.	Included
3	Listening	2	An activity contrasting the effect of an active listener and a passive listener on the speaker.	Included
4	Rumor	4	The effect of selective listening is demonstrated via communication of a story from one group member to another.	Omitted
5	Feedback	2	Interpretation of verbal feedback is followed by interpreting some situations including nonverbal feedback.	Included
6	Nonverbal communication	3	Identification of nonverbal messages in communication followed by practice of nonverbal communication in a small group discussion.	Included

Exercise	Name	Rating	Description	Use
	GROUP INTRODUCTION			
7	Trust and common sharing	2	Presentation of Jottari window followed by a falling trust exercise; discussion of change in trust, knowledge of self and others.	Included
8	Initial sharing	1	Group members describe one another as an automobile with discussion of self-knowledge acquired as a result.	Included
9	Focused feedback	1	Group members bring something of importance from past; group members guess its importance; discussion of knowledge acquired about others.	Included
10	Sociometric feedback	3	Each group member is to select three members to accompany him on an important mission. Results are tallied and discussion of why people are and are not chosen follows.	Included
11	Identifying group roles	2	Two subgroups compete in putting a puzzle together; group roles are then presented followed by analysis of roles played in the taped competion.	Included
12	Feedback of group roles	3	Presentation on importance of task and maintenance roles in groups followed by group discussion in a "fishbowl" with opportunity for analysis of roles being played.	Included
13	Group consensus	1	Each group member decides how to solve a series of teacher-teacher problems; the group then seeks consensus on solving those problems followed by analysis of group roles played.	Process of 13 combined with activities of 18

Exercise	Name	Rating	Description	Use
	INTERPERSONAL SKILLS			
14	Teacher/pupil interaction	2	Second presentation on task and maintenance roles in a group; role-playing situations in which the teacher discusses a problem with a student who has a deeper problem which is to be revealed only if the teacher is understanding.	Included
15	Bias	3	Half the class is given negative or positive set about a student; the group then discusses answers to questions and discovers the difference in sets.	Included
16	Initiative and group growth	4	Focuses on dependence of group on the instructor who deliberately arrives late; also involves discussion of level of trust in the group.	
17	Teacher/teacher interaction	4	Situations of conflict between teachers are presented to which group members suggest solutions; analysis of answers in terms of human relations skills.	Omitted
18	Decision making	3	(See exercise 13)	Combined with 13
19	Cultural demands	3	The film "Have I Told You Lately That I Love You" is shown followed by discussion of implications for teachers and schools as a result of an impersonal, technological society.	Included
20	Problem with parents	3	Role play of situations between parents and teachers followed by discussion of the quality of the solution identified.	Included

Exercise	Name	Rating	Description	Use
	PROFESSIONAL PROBLEMS			
21	Creativity	2	Focuses on importance of creativity in teaching via use of 15 prints organized into a presentation on "Why human relations skills are important in teaching."	Included
22	Teaching simulations	4	Provides opportunity for two subgroups to develop a teaching situation which will be role played by members of the other subgroup; analysis and discussion follow.	Omitted
23	Teacher action maze	1	A paper-pencil programmed exercise in which individual group members use their human relations skills to solve the problem of a student.	Included
24	Professional ethics	4	Introduces students to the WEA Code of Ethics after group development of articles for their own code of ethics.	Omitted
25	Situational testing incidents (review and retest)	1	Reaction to incidents in exercise 1 followed by discussion of changes in answers from the first session.	Combined with 26
26	Closure	3	Ranking and discussion of the value of the activities of laboratory.	Combined with 25

APPENDIX B:

SYLLABUS FOR INTERACTION LABORATORY

College of Education
IOWA STATE UNIVERSITY

SYLLABUS

Education 305A - Methods of Teaching
(Thiokol)

Dr. L. Roberta Atwell
206 B Curtiss Hall
294-7985

Mr. Dwayne G. Olsen
Fisher House
294-7009

Dr. Paul T. Rosewell
217 B Curtiss Hall
294-7317

Textbooks: Student Journal: Interaction Laboratory for Teacher Development. Ogden, Utah: Thiokol Chemical Corporation, 1971.

Roger C. Farr and James L. Laffey. Reading in the High School. Washington: National Education Association, 1970.

Course Outline

This course covers several aspects of teacher human relations skills, centering around one basic premise: "Teachers are primarily people interacting with other people in a specialized way." The concept of role flexibility as used in this course expands this premise to prepare the teacher to interact with various kinds of people in the typical school setting. A teacher must meet the different role expectations of pupils, parents, and fellow teachers. This course will provide an opportunity for the student to analyze and practice these various role patterns through the following units:

I. Basic Communications Skills
II. Group Interaction
III. Interpersonal Skills
IV. Professional Skills
V. Preparation of Instructional Materials

Unit V includes the teaching of reading in the secondary school, the preparation of a learning package, and specific micro-teaching skills providing an opportunity for practice.

Revised Winter Quarter, 1972-1973

Objectives of the Course

This course will provide Education 305A students the opportunity to:

1. become acquainted with the importance of human relations skills in teaching;

2. be exposed to the kinds of interpersonal problems which arise with pupils, parents, and fellow teachers within the school setting;

3. more clearly understand the flexible line separating personal and professional behavior;

4. evidence understanding of reading problems of secondary students by preparing a report on this topic;

5. demonstrate a knowledge of behavioral objectives and planning procedures (a) through the preparation of daily lesson plans and (b) a learning package or specific micro-teaching skills.

Grading

A contract approach will be used for grading in this class. The student decides what grade he wishes for the course and fulfills the requirements for that particular grade. Contracts will be due at the third class session of the quarter.

To earn a(n):

A* - 1. Prepare a written report on secondary school reading instruction;

2. Prepare a learning package and evaluate the learning package of another 305A student;

3. Prepare two sets of lesson plans or participate in micro-teaching;

4. Participate in the classroom laboratory experiences and any other assigned activities including pre-testing and post-testing. (Note attendance requirement below.)

B* - 1. Prepare a written report on secondary school reading instruction;

2. Prepare two sets of lesson plans or participate in micro-teaching;

3. Participate in the classroom laboratory experiences and any other assigned activities including pre-testing and post-testing. (Note attendance requirement below.)

C* - 1. Prepare two sets of lesson plans or participate in micro-teaching;

2. Participate in the classroom laboratory experiences and any other assigned activities including pre-testing and post-testing. (Note attendance requirement below.)

*Several members of the class will be selected to participate in three micro-teaching experiences which will be scheduled and videotaped during the latter part of the

latter part of the course. (Each videotaping session will last approximately one and one-half hours.)

Attendance

Because of the nature of the laboratory approach (group activities and evaluations which take place regularly in class) all students must be present for every session. Since attendance is a factor in determining the grade for the course, all absences must be cleared with the instructor.

(Detach and submit to the instructor at the third class meeting of the quarter.)

Education 305A **Contract** Winter Quarter 1972-1973

Name _____ Section _____

Circle the grade for which you are contracting: A B C

Signed _____ Date _____

APPENDIX C:

SYLLABUS FOR CONTROL SECTIONS

College of Education

IOWA STATE UNIVERSITY

SYLLABUS

Education 305A - Methods of Teaching

Dr. L. Roberta Atwell
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Dr. Lynn W. Glass
Fisher House
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Mr. Dwayne G. Olsen
Fisher House
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Textbooks: James E. Weigand, editor. DEVELOPING TEACHER COMPETENCIES. Englewood Cliffs: Prentice-Hall, Incorporated, 1971.

Roger C. Farr and James L. Laffey. READING IN THE HIGH SCHOOL. Washington: National Education Association, 1970.

Course Outline and Objectives

I. ORGANIZING AND PLANNING FOR INSTRUCTION

A. Non-Performance and Performance Objectives

Upon completion of Education 305A the student will be able to:

1. *distinguish between performance and non-performance objectives.*
2. *construct objectives stated in performance and non-performance terms for his subject matter area.*
3. *identify strengths and weaknesses of performance and non-performance objectives and the implications which performance objectives have for teaching and evaluation.*

B. Learning Taxonomies/Learning Theories/Instructional Sequence

Upon completion of Education 305A the student will be able to:

1. *compare and contrast the various learning taxonomies including those of Bloom, Krathwohl, Taba, Gagńe, the motor model and SPCP model.*

2. *use any one of the learning taxonomies to develop objectives which would be applicable in his subject matter teaching area for each level in the taxonomy.*

3. *select an instructional model appropriate to his personal teaching style and plan lesson(s) in the area of his choice.*

C. **Group and Individualized Teaching Methods Including Daily, Weekly, and Unit Lesson Planning**

1. **Large Group and Small Group Instruction**

Upon completion of Education 305A the student will be able to:

a. *work in small groups, identify the necessary components for successful small group work, and identify areas in which to use small groups in teaching in his subject-matter area.*

b. *work in large groups, identify the necessary components for successful large group work, and identify areas in which to use large groups in teaching in his subject-matter area.*

2. **Learning Packages, Computer Assisted Instruction, Independent Study, Programmed Learning**

Upon completion of Education 305A the student will be able to:

a. *distinguish between learning packages, computer assisted instruction, independent study and programmed learning and explain how these can be used in individualizing instruction.*

b. *construct a learning package in his subject-matter area.*

3. Technical Skills of Teaching

Upon completion of Education 305A the student will be able to:

a. *define and demonstrate knowledge of one or more of the following skills through peer teaching: set induction; reinforcement; closure; value clarification; attitude growth; concept development; and questioning.*

b. *construct questions which are related to the levels of cognition in any of the learning theories or taxonomies.*

c. *identify and practice behaviors which will aid in dealing with interpersonal relations within the classroom.*

D. Secondary School Reading Instruction

Upon completion of Education 305A the student will be able to:

1. *evidence through research the ability to diagnose and treat problems and difficulties encountered by pupils in secondary school reading.*

E. Evaluation of Instruction

Upon completion of Education 305A the student will be able to:

1. *distinguish between creative and non-creative acts.*
2. *distinguish between various marking procedures and alternatives.*
3. *write essay, short answer, true-false, matching and multiple choice questions.*
4. *develop two or three ways of evaluating student progress in the lesson plan and/or learning package developed for this class.*
5. *use feeback gained during peer teaching to alter the way in which the lesson will be taught in the future.*
6. *explain how feedback (reinforcement) is valuable for both pupil and teacher.*
7. *identify and practice some of the ways in which teachers may obtain feedback about their teaching - both the result and the process.*

II. TEACHER PUPIL RELATIONS

A. Pre-adolescent and Adolescent Characteristics and Intellectual Development

Upon completion of Education 305A the student will be able to:

1. *evidence in class participation and written performance an orientation to traits and characteristics of preadolescent and adolescent behavior.*

B. Classroom Management

Upon completion of Education 305A the student will be able to:

1. *evidence in class participation and written performance an orientation to techniques and procedures for effective classroom management and for responsible pupil-teacher relationships.*

2. *explain the relationship between classroom control and good planning.*

3. *explain how classroom management and organization is necessary for classroom control.*

C. Counseling/The Teacher's Relationship to the Guidance Program

Upon completion of Education 305A the student will be able to:

1. *evidence in class participation and written performance an orientation to the secondary school teacher's obligations to parents and the community, the school board and administration, the school guidance program, the co-curricular program and the co-workers and the profession.*

2. *explain the relationship of the classroom teacher to the guidance program and the teacher's responsibility in counseling students.*

APPENDIX D:

THE ADJECTIVE CHECK LIST

THE ADJECTIVE CHECK LIST
by Harrison G. Gough

___ Male ___ Female
126

Identification Number:
___ ___ ___ ___ ___ ___ ___

Directions: This answer sheet contains a list of 300 adjectives. Please read them quickly and place an "X" in the blank preceding each one you would consider to be self-descriptive. Do not worry about duplications, contradictions, and so forth. Work quickly and do not spend too much time on any one adjective. Try to be frank, and mark the blank for the adjectives which describe you as you really are, not as you would like to be. Be sure to continue to the second page and work through adjective No. 300. Erase any errors completely.

___ 1. absent-minded
___ 2. active
___ 3. adaptable
___ 4. adventurous
___ 5. affected
___ 6. affectionate
___ 7. aggressive
___ 8. alert
___ 9. aloof
___ 10. ambitious
___ 11. anxious
___ 12. apathetic
___ 13. appreciative
___ 14. argumentative
___ 15. arrogant
___ 16. artistic
___ 17. assertive
___ 18. attractive
___ 19. autocratic
___ 20. awkward
___ 21. bitter
___ 22. blustery
___ 23. boastful
___ 24. bossy
___ 25. calm
___ 26. capable
___ 27. careless
___ 28. cautious
___ 29. changeable
___ 30. charming
___ 31. cheerful
___ 32. civilized
___ 33. clear-thinking
___ 34. clever
___ 35. coarse
___ 36. cold
___ 37. commonplace
___ 38. complaining
___ 39. complicated
___ 40. conceited
___ 41. confident
___ 42. confused
___ 43. conscientious
___ 44. conservative
___ 45. considerate
___ 46. contented
___ 47. conventional
___ 48. cool
___ 49. cooperative
___ 50. courageous
___ 51. cowardly
___ 52. cruel
___ 53. curious
___ 54. cynical
___ 55. daring
___ 56. deceitful
___ 57. defensive
___ 58. deliberate
___ 59. demanding
___ 60. dependable
___ 61. dependent
___ 62. despondent
___ 63. determined
___ 64. dignified
___ 65. discreet
___ 66. disorderly
___ 67. dissatisfied
___ 68. distractible
___ 69. distrustful
___ 70. dominant
___ 71. dreamy
___ 72. dull
___ 73. easy-going
___ 74. effeminate
___ 75. efficient
___ 76. egotistical
___ 77. emotional
___ 78. energetic
___ 79. enterprising
___ 80. enthusiastic
___ 81. evasive
___ 82. excitable
___ 83. fair-minded
___ 84. fault-finding
___ 85. fearful
___ 86. feminine
___ 87. fickle
___ 88. flirtatious
___ 89. foolish
___ 90. forceful
___ 91. foresighted
___ 92. forgetful
___ 93. forgiving
___ 94. formal
___ 95. frank
___ 96. friendly
___ 97. frivolous
___ 98. fussy
___ 99. generous
___ 100. gentle
___ 101. gloomy
___ 102. good-looking
___ 103. good-natured
___ 104. greedy
___ 105. handsome
___ 106. hard-headed
___ 107. hard-hearted
___ 108. hasty
___ 109. headstrong
___ 110. healthy
___ 111. helpful
___ 112. high-strung
___ 113. honest
___ 114. hostile
___ 115. humorous
___ 116. hurried
___ 117. idealistic
___ 118. imaginative
___ 119. immature
___ 120. impatient
___ 121. impulsive
___ 122. independent
___ 123. indifferent
___ 124. individualistic
___ 125. industrious
___ 126. infantile
___ 127. informal
___ 128. ingenious
___ 129. inhibited
___ 130. initiative
___ 131. insightful
___ 132. intelligent
___ 133. interests narrow
___ 134. interests wide
___ 135. intolerant
___ 136. inventive
___ 137. irresponsible
___ 138. irritable
___ 139. jolly
___ 140. kind
___ 141. lazy
___ 142. leisurely
___ 143. logical
___ 144. loud
___ 145. loyal
___ 146. mannerly
___ 147. masculine
___ 148. mature
___ 149. meek
___ 150. methodical

___ 151. mild
___ 152. mischievous
___ 153. moderate
___ 154. modest
___ 155. moody
___ 156. nagging
___ 157. natural
___ 158. nervous
___ 159. noisy
___ 160. obliging
___ 161. obnoxious
___ 162. opinionated
___ 163. opportunistic
___ 164. optimistic
___ 165. organized
___ 166. original
___ 167. outgoing
___ 168. outspoken
___ 169. painstaking
___ 170. patient
___ 171. peaceable
___ 172. peculiar
___ 173. persevering
___ 174. persistent
___ 175. pessimistic
___ 176. planful
___ 177. pleasant
___ 178. pleasure-seeking
___ 179. poised
___ 180. polished
___ 181. practical
___ 182. praising
___ 183. precise
___ 184. prejudiced
___ 185. preoccupied
___ 186. progressive
___ 187. prudish
___ 188. quarrelsome
___ 189. queer
___ 190. quick
___ 191. quiet
___ 192. quitting
___ 193. rational
___ 194. rattlebrained
___ 195. realistic
___ 196. reasonable
___ 197. rebellious
___ 198. reckless
___ 199. reflective
___ 200. relaxed
___ 201. reliable
___ 202. resentful
___ 203. reserved
___ 204. resourceful
___ 205. responsible
___ 206. restless
___ 207. retiring
___ 208. rigid
___ 209. robust
___ 210. rude
___ 211. sarcastic
___ 212. self-centered
___ 213. self-confident
___ 214. self-controlled
___ 215. self-denying
___ 216. self-pitying
___ 217. self-punishing
___ 218. self-seeking
___ 219. selfish
___ 220. sensitive
___ 221. sentimental
___ 222. serious
___ 223. severe
___ 224. sexy
___ 225. shallow
___ 226. sharp-witted
___ 227. shiftless
___ 228. show-off
___ 229. shrewd
___ 230. shy
___ 231. silent
___ 232. simple
___ 233. sincere
___ 234. slipshod
___ 235. slow
___ 236. sly
___ 237. smug
___ 238. snobbish
___ 239. sociable
___ 240. soft-hearted
___ 241. sophisticated
___ 242. spendthrift
___ 243. spineless
___ 244. spontaneous
___ 245. spunky
___ 246. stable
___ 247. steady
___ 248. stern
___ 249. stingy
___ 250. stolid
___ 251. strong
___ 252. stubborn
___ 253. submissive
___ 254. suggestible
___ 255. sulky
___ 256. superstitious
___ 257. suspicious
___ 258. sympathetic
___ 259. tactful
___ 260. tactless
___ 261. talkative
___ 262. temperamental
___ 263. tense
___ 264. thankless
___ 265. thorough
___ 266. thoughtful
___ 267. thrifty
___ 268. timid
___ 269. tolerant
___ 270. touchy
___ 271. tough
___ 272. trusting
___ 273. unaffected
___ 274. unambitious
___ 275. unassuming
___ 276. unconventional
___ 277. undependable
___ 278. understanding
___ 279. unemotional
___ 280. unexcitable
___ 281. unfriendly
___ 282. uninhibited
___ 283. unintelligent
___ 284. unkind
___ 285. unrealistic
___ 286. unscrupulous
___ 287. unselfish
___ 288. unstable
___ 289. vindictive
___ 290. versatile
___ 291. warm
___ 292. wary
___ 293. weak
___ 294. whiny
___ 295. wholesome
___ 296. wise
___ 297. withdrawn
___ 298. witty
___ 299. worrying
___ 300. zany

APPENDIX E:

THE TEACHER CONCEPTIONS OF THE EDUCATIVE PROCESS QUESTIONNAIRE

QUESTIONNAIRE I

Please use answer sheet "A" for items 1 - 70 and answer sheet "B" for items 71 - 86. (Item "1" will be "71" and item "16" will be "86".)

BELIEFS ABOUT TEACHING

Purpose: The following is a study of what those preparing to teach believe about various aspects of teaching. The best answer to each statement below is your personal opinion. Many different and opposing points of view are presented; you may find yourself agreeing strongly with some of these statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many people believe the same as you do.

Directions: Mark each statement on your answer sheet according to how much you agree or disagree with it. Please mark every one.

1 = I STRONGLY AGREE 3 = I MILDLY AGREE 5 = I DISAGREE

2 = I AGREE 4 = I MILDLY DISAGREE 6 = I STRONGLY DISAGREE

1. Optimum learning takes place when the classroom setting is completely free of distractions.
2. Pupils learn best when permitted to set their own pace in doing the work.
3. The effectiveness of teaching is enhanced when the teacher has the ability to see the world as each of his pupils see it.
4. Proper control of a class is amply demonstrated when pupils work quietly while the teacher is out of the room.
5. The teacher who organizes the material and presents it to pupils in a forceful way gets the best results.
6. Good rapport with pupils is maintained by the teacher who always finds time to help individuals with special problems.
7. A firm hand by the teacher promotes emotional security for pupils.
8. The over-all plan of education suffers when teachers depart substantially from the subject outline.
9. The teacher's ability to see the world as each of his students sees it is an absolute must if he is to have any success at all in teaching.

1 = I STRONGLY AGREE 3= I MILDLY AGREE 5= I DISAGREE

2 = I AGREE 4= I MILDLY DISAGREE 6= I STRONGLY DISAGREE

10. Teachers must always be prepared to explain to pupils interrelationships among various elements of the overall curriculum.

11. Nothing stimulates a pupil to apply himself more diligently than a warm, personal interest in his progress shown by the teacher.

12. Teachers who do not like pupils will usually decide on and plan lessons alone rather than use pupil participation.

13. Pupils never really understand a subject until they can relate what they have learned to the broader problems of the world.

14. Pupils gain better understanding of the subject if assignments are presented to them as a series of interrelated problems.

15. The main reason for the curriculum guide is to provide the teacher with definite information regarding the material to be covered in the course.

16. The goals of education should be dictated by children's interests and needs as well as by the larger demands of society.

17. A teacher's effectiveness rests upon his ability to maintain proper "professional distance" between the pupils and himself.

18. Pupils must be kept busy or they soon get into trouble.

19. The individuality of pupils is sustained when teachers make allowances in their grade reports for the varying interests pupils have.

20. Learning is enhanced when teachers praise generously the accomplishments of pupils.

21. Before pupils are encouraged to exercise independent thought they should be thoroughly grounded in the facts and knowledge about the subject.

22. Learning is essentially a process of increasing one's store of information about various fields of knowledge.

23. Pupil failure is averted when mastery of subject matter is the prime requisite for promotion.

24. Pupils learn self direction by having opportunities to set their own goals for learning.

25. Grading pupils separately on achievement and citizenship assures that teachers will insist on mastery of subject matter as well as good behavior.

1 = I STRONGLY AGREE 3 = I MILDLY AGREE 5 = I DISAGREE

2 = I AGREE 4 = I MILDLY DISAGREE 6 = I STRONGLY DISAGREE

26. In teaching it is quite essential to cover the material in the course of study.

27. An essential component of a good lesson is one of showing how it is related to other areas of knowledge.

28. The pupil's impression of the teacher's personality greatly influences what he learns.

29. The curriculum consists of subject matter to be learned and skills to be acquired.

30. Children learn best in an atmosphere filled with love and emotional support.

31. The natural flow of events is enhanced by the teacher who manages to eliminate any disruptive pupil behavior.

32. Under ideal conditions pupils would view each teacher as a "specialist" in the subject taught.

33. The effective teacher has complete control of the learning situation at all times.

34. Across-the-school routine imposes a consistency in classroom procedure which tends to restrict important avenues for learning.

35. Children should be given more freedom in the classroom than they usually get.

36. A good teacher will establish a routine and stick to it.

37. Children need and should have more supervision and discipline than they usually get.

38. The deep interest which pupils sometimes develop in one subject can be valuable to them, but only if teachers succeed in broadening their perspectives across subject matter boundaries.

39. The teacher must avoid strict adherence to the sequence provided by a textbook series.

40. Pupils respect teachers who stand firm on their convictions.

41. His effectiveness is seriously impaired when the teacher permits himself to become emotionally involved in the personal problems of pupils.

1 = I STRONGLY AGREE 3 = I MILDLY AGREE 5 = I DISAGREE

2 = I AGREE 4 = I MILDLY DISAGREE 6 = I STRONGLY DISAGREE

42. Students who misbehave or do not learn are generally children who need more love.

43. The teacher assures optimum learning conditions by giving top priority to the social-emotional needs of pupils.

44. Pupils do their best work when they know exactly what to expect from day to day.

45. Teachers who like pupils will usually encourage pupil initiation and participation in planning lessons.

46. Lessons presented in the form of problems to be solved are the best means of motivating pupils.

47. Pupils are induced to greater motivation when the teacher remains somewhat aloof from the interpersonal affairs of the class.

48. In the interest of good discipline pupils who repeatedly disrupt the class must be severely punished.

49. Pupils learn efficiently the essentials of a subject when every member of the class moves simultaneously through carefully planned lesson sequences.

50. Teachers must set definite items aside to show pupils the relationships between their subject and the overall goal of education.

51. The most important thing a teacher can do to set the stage for learning is to discover the interests of students.

52. The backbone of the school curriculum is subject matter; activites are useful mainly to facilitate the learning of subject matter.

53. The structure of a field of knowledge is intrinsically interesting to pupils when it is clearly taught.

54. Pupils must see clearly that it is the teacher,not they, who has charge of classroom learning.

55. The completion of any worthwhile task in education requires hard work on the part of pupils.

56. Teachers increase their chances of directing the work into productive channels by having pupils participate in the planning.

57. A well established classroom routine enhances the emotional stability of pupils.

1 = I STRONGLY AGREE 3 = I MILDLY AGREE 5 = I DISAGREE

2 = I AGREE 4 = I MILDLY DISAGREE 6 = I STRONGLY DISAGREE

58. If curriculum plans are to be developed, they must go into detail on how course content can be integrated across subjects.

59. Establishing the rules well in advance strengthens the teacher's hand in meeting the various problems that might arise.

60. The pupil's knowledge is best developed when teachers interrelate facts and figures from many different subject fields.

61. Time to choose freely their own activity during the school day is a must for pupil morale.

62. A teacher can frequently "reach" a rebellious pupil by taking an intense personal interest in his welfare.

63. The use of sarcasm by the teacher can accomplish nothing but emotional harm for the pupil.

64. Small group work uses to best advantage the contrasting personalities, skills, and interests pupils have.

65. Pupils frequently learn much more under their own initiative than they do under teacher direction.

66. A properly motivated group of mature students might learn more in a semester's time if they were left entirely to their own resources than if they had a teacher to guide them.

67. Group activity teaches children to think and plan together, independent of direct supervision by the teacher.

68. The attitudes learned by a student are often the most important result of a lesson or unit.

69. The effectiveness of the teacher depends entirely on the amount of personal interest he can invest in the progress of each pupil.

70. Pupils learn library skills more readily by using their own devices in searching for materials of special interest than by a series of exercises designed to teach the logical steps in library procedure.

71. Pupils are motivated to do better work when they feel free to move around the room while the class is in session.

72. Pupils master the essentials of a subject only when extensive plans are made for accommodating individual differences in pupils.

73. The essential function of junior high school courses lies in their preparing pupils for later courses.

1 = I STRONGLY AGREE 3 = I MILDLY AGREE 5 = I DISAGREE

2 = I AGREE 4 = I MILDLY DISAGREE 6 = I STRONGLY DISAGREE

74. Children learn the necessary skills of group participation only when they are exposed to sequences of activity requiring increasingly difficult skills from kindergarten through grade twelve.

75. Nothing captures students' interest in school work as quickly as allowing them to wrestle with problems of their own choosing.

76. Pupils respect teachers who expect them to work hard in school.

77. In planning their work teachers should rely heavily on the knowledge and skills pupils have acquired outside the classroom.

78. The development of social and emotional security for pupils is the most important function of the school.

79. Pupils gain more satisfaction from doing a difficult task well than any other achievement.

80. The basic function of education is fulfilled only when pupils are led to understand the general significance of the material they have learned.

81. When given a choice of activity, pupils generally select what is best for them.

82. There is too great an emphasis on keeping order in the classroom.

83. Teaching of specific skills and factual subject matter is the most important function of the school.

84. Pupils learn to stay alert when they are expected to respond immediately to teacher demands.

85. Pupils gain a sense of belonging when the teacher encourages friendships among pupils in the room.

86. The logical structure of subject matter is the most realistic guide to the organization of the work in the classroom.

1 = I STRONGLY AGREE 3 = I MILDLY AGREE 5 = I DISAGREE

2 = I AGREE 4 = I MILDLY DISAGREE 6 = I STRONGLY DISAGREE

APPENDIX F:

GOVERNMENT OF THE STUDENT BODY INSTRUCTOR EVALUATION DEVICE

You are requested by your instructor to respond to the following questions in order to provide feedback which will help him improve his teaching.

General Instructions:

1) On the answer sheet, indicate name of instructor, course name, number and section;
2) Do NOT enter your name;
3) Mark only one response per item;
4) Use a #2 pencil; do NOT use ink.

Answer the following 3 questions as indicated:

1) Your sex. 1 or A = male, 2 or B = female.
2) Your year in college. 1 or A = First, 2 or B = second, etc.
3) Your college. 1 = Ag., 2 = Engr., 3 = H.Ec., 4 = S&H, 5 = Ed., blank = Grad.

Never or strongly disagree	1 or A
Seldom or disagree	2 or B
Sometimes or neither agree nor disagree	3 or C
Often or agree	4 or D
Always or strongly agree	5 or E

4) The instructor was well prepared for class.
5) The instructor was sincerely interested in the subject being taught.
6) The instructor demonstrated comprehensive knowledge of the subject.
7) The instructor was fair and reasonable to students in the grading procedure.
8) The instructor communicated effectively at levels appropriate to the preparedness of students.
9) The instructor organized the course in logical fashion.
10) The instructor treated students with respect.
11) The instructor acknowledged all questions to the best of his ability.
12) It was easy to hear and understand the instructor.
13) The instructor stated test questions clearly.
14) The instructor explained his grading system clearly.
15) The instructor showed a good sense of humor in class.
16) The instructor encouraged questions and discussions during class time.
17) The examination allowed adequate expression of what the student learned in the course.
18) The tests required only memorized materials.

Answer the next 2 questions as indicated:
1 or A = bottom 10%, 2 or B = next 20%, 3 or C middle 40%, 4 or D next 20%, 5 or E Top 10%

19) Compared to other courses I have taken, I would rate the content of this course:
20) Compared to other instructors I have had, I would rate this instructor:

Your instructor may ask you to respond to further questions which may be numbered 21 and following. Further, you may use the back of the answer sheet to write additional comments which will be returned to your instructor after grades are turned in. Your cooperation in this project is sincerely appreciated.

SCS-271

APPENDIX G:

FLANDERS INTERACTION ANALYSIS SYSTEM

SUMMARY OF

CATEGORIES FOR INTERACTION ANALYSIS

TEACHER TALK	INDIRECT INFLUENCE	1. * ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings is included. 2. * PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, but not at the expense of another individual; nodding head, or saying "um hm?" or "go on" are included. 3. * ACCEPTS OR USES IDEAS OF STUDENTS: clarifying, building, or developing ideas suggested by a student. As teacher brings more of his own ideas into play, shift to Category 5. 4. * ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.
	DIRECT INFLUENCE	5. * LECTURING: giving facts or opinions about content or procedures; expressing his own ideas, asking rehetorical questions. 6. * GIVING DIRECTIONS: directions, commands, or orders with which a student is expected to comply. 7. * CRITIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
STUDENT TALK		8. * STUDENT TALK-RESPONSE: talk by students in response to teacher. Teacher initiates the contact or solicits student statement. 9. * STUDENT TALK - INITIATION: talk by students, which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
		10. * SILENCE OR CONFUSION: pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.

* There is NO scale implied by these numbers. Each number is classificatory; it designates a particular kind of communication event. To write these numbers down during observation is to enumerate -- not to judge a position on a scale.

APPENDIX H:

INFORMATION FOR MICROTEACHERS

Date: January 5, 1973

To: Microteachers, Winter Quarter 1973

From: Dwayne G. Olsen (229 Curtiss, 294-2163; 216 Fisher House, 294-7009)

SUBJECT: Preparations for Microteaching

The following Education 305A students will participate in a teaching experience consisting of three lessons which will be video-taped. The sessions will be held in Curtiss 325 during the last three weeks of the quarter. Definite times will be set with each group.

Section B	Section C	Section D
1. Karen Staver	William Robinson	John Warrick
2. William Obermeier	Kim Pagel	Steve Linduska
3. Sherman Ober	Edith Puffer	Margaret Kelly
4. Kenneth Sills	Sandie Peterson	Jolene Rinderknecht
5. Roger Parsons	James Nicoll	Steve Kruse

Section E	Section G	Section H
1. Marilyn Morrison	Diann Harvey	Teresa Nece
2. Debby Vaudt	Edna Faye Leffel	Janika Eckert
3. Brent Hanna	Mike Risk	Thomas Fish
4. Mark Baustian	Guy Carpenter	Steve Riggert
5. Connie Stoessel	Deanna B. Jens	Linda Schmidt

Section I	Section J
1. Terri Matters	Don Powers
2. Gregg Lamb	Rosemary Ligouri
3. Charles Whitacre	James T. Johnston
4. Glenda Gotter	Donna Stark
5. Carol Williams	Linda Larsen

In each session each microteacher will teach for five to eight minutes while the remaining four members of the group role play "students" in that particular subject and of that particular age. Use the skills which you have learned and which have been presented to you in the handouts in any way which seems appropriate for students to learn the cognitive material with which you are dealing. Bring any materials which you wish to use. An overhead projector, screen, small blackboard (2' wide), and a table with a podium are in the room. If you need other equipment, please notify me as soon as you are aware of your need but not later than the day before such

equipment is to be used. You may view your presentation at any time after the session is over.

Listed below are some additional considerations you should bear in mind relative to your presentations:

1. Information may be placed on the blackboard before the beginning of your teaching;

2. The three lessons should involve the teaching of cognitive material with particular concern for the interaction which takes place between teacher and "students." Your lessons should be planned in such a way that the second builds on the first and the third builds on the other two. Choose a concept or generalization which is sufficiently broad to require at least these three sessions and one with which you are familiar and comfortable;

3. Prepare handouts or materials which you are going to use as a basis for your three lessons and give them to your "students" (fellow microteachers) at least three days prior to the first microteaching session. This will give the "students" a basic understanding of the concept or generalization with which you are dealing. As appropriate, additional handouts may be given "students" during a lesson or for use in the next lesson;

4. Each microteaching lesson will be a maximum of eight minutes in length. You will be notified when two minutes and one minute remain so that you can adjust the ending of your lesson;

5. You will not be required to turn in lesson plans, etc. to the proctor.

Introduction

Since it is difficult to practice closure out of context it will be necessary to develop this micro-teaching presentation relative to the traditional unit which you prepared. By way of introduction to this micro-teaching experience you must inform your "students" what has taken place in the lesson, whether you are closing at the end of a unit, lesson, etc. and then proceed with your presentation.

Closure pulls together major points made in the lesson or unit and links previous knowledge to new knowledge. It is valuable at the end of the lesson or class period to indicate what has been accomplished and what needs to be accomplished. Closure is also valuable during the lesson when the teacher sums up where the class is and where it's going. When a unit is completed closure is requisite.

"Closure" is attained when the major purposes and principals of a lesson, or portion of a lesson, are judged to have been learned so that new knowledge can be related to old knowledge. "Closure" is complementary to "set" induction. "Closure" as a teaching skill can be used with the entire class or with individuals. It is more than a quick summary of the ground covered in a lesson. It should help students see the relationships between scientific concepts or processes, and how they fit into a logical structure or sequence.

"Closure" is not limited to the completion of a lesson, but is also needed at various points within the lesson so that pupils may know where they are, where they have been, and where they are going.

It must be remembered that in some subjects like science, social studies and literature "true closure" never really happens. Students must be taught to accept a degree of uncertainty and continually search for more adequate explanations of the phenomena under study. However, the "closure" technique is quite valuable in the learning process because it helps students to organize and relate various scientific concepts and processes, and it helps facilitate understanding and retention.

This skill is designed to help you (1) provide continuity to learning within each lesson and (2) provide continuity to learning from day to day.

Achieving closure also involves the ability to determine the appropriate length of time to devote to a particular topic of discussion. For many years education books concerned with methods of teaching have emphasized the importance of summarizing at various intervals and at the close of the lesson. However, progress in the behavioral sciences has enabled us to gain more insight about the appropriate length of a discussion. A teacher must develop an awareness of how long the pursuit of a subject is profitable and stimulating to prevent loss of valuable time as well as boredom. It requires skill for the teacher to know when

to "close in" psychologically with such statements as, "Although we have not exhausted our supply of examples, it is evident that we have some helpful knowledge of the role of values in our lives. Now can we go to another related topic of attitudes?" (or "Now let us proceed to another related topic of attitudes.")

One writer[1] points out that there is a difference between instructional closure and cognitive closure. The former occurs when the lesson is completed and the teacher relates previous knowledge and new knowledge. Cognitive closure occurs when the student has related previous knowledge and new knowledge. The following procedure is presented to help the teacher determine whether cognitive closure has taken place and help the student make the connection between previous knowledge and new knowledge:

1. review the sequence followed in moving from known material to new material;

2. apply what has been learned to similar examples and cases; and

3. extend material covered to new situations.

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[1]William Johnson as quoted in Dwight Allen and Kevin Ryan's Microteaching. Reading, Massachusetts: Addison-Wesley Publishing Company, Inc., 1969, p. 20.

EDUCATION 305A

SKILL ANALYSIS GUIDE

Microteacher _____ Date _____

Clinic Instructor _____

Closure	Insufficient	Adequate	Excessive
A. The teacher encouraged students to make connections between previously known material, currently presented material, and future learning.	☐	☐	☐
B. The teacher allowed students the opportunity to demonstrate what they have learned (e.g., provide for pupil summary or provide for pupil practice of new learning.)	☐	☐	☐
C. The teacher encouraged students to identify questions that remain unanswered; problems for continued investigation.	☐	☐	☐
D. In light of the objectives, an appraisal activity was given to determine individual readiness to proceed to further learning.	☐	☐	☐

COMMENTS:

MICRO TEACHING

EDUCATION 305A REINFORCEMENT OF STUDENT PARTICIPATION

Introduction

What happens in reinforcement? The teacher questions or makes a statement, the student responds; the teacher then reinforces this behavior by indicating approval in some way. As a result the student is more likely to remember. According to Richard C. Anderson, et. al., the editors of Current Research on Instruction, Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969, ". . . the importance of reinforcement for human behavior is beyond question."

There are two classes of reinforcers. Primary reinforcers serve a biological function by fulfilling a need or causing deprivation. Hunger is an example. As such primary reinforcers have limited applicability in the classroom. Secondary reinforcers, conditioned reinforcers, are learned or acquired as a result of being associated with primary reinforcers. Money and social approval are examples.

Why reinforcement? Students cannot learn unless they pay attention to the task at hand; reinforcement eliminates unwanted behavior and thus makes attention possible. Interestingly enough according to Anderson, et.al., it has been found that ". . . intermittent reinforcement - providing reinforcement for some, but not all, acceptable responses - brings about greater student persistence than continuous reinforcement."

Teaching Skills for Consideration - Reinforcement

Persons tend to modify their behavior according to the consequences of their actions. Generally, students will increase the type of behavior which is rewarded and decrease that which is ignored or punished. The acquisition of knowledge of specific techniques of reward and punishment, and the development of skill in using them appropriately in specific situations, is most important in stimulating a high level of productive behavior on the part of students.

To promote creative-divergent thinking [1] on the part of students they must be reinforced for their imaginative questions and ideas, and must be given opportunities for practice and experimentation without the threat of evaluation. Also, students should be encouraged and rewarded for self-initiated learning, which is an important basis for successful individualized instruction.

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[1] "Divergent thinking represents intellectual operations wherein the individual is free to generate independently his own ideas within a data-poor (information-poor) situation, or to take a new direction or perspective on a given topic. Divergent questions encourage the elaboration of previous ideas, the drawing of implications, the generation of new ideas and data, as well as spontaneity, originality, flexibility, and initiative." Ronald T. Hyman Ways of Teaching. Philadelphia: J.B. Lippincott Co., 1970, p. 228.

Providing the setting and the opportunity for discovery of something new to the student is another important consideration which could be included under the concept of reinforcement. The "act of discovery" itself is very rewarding to an individual, and provides an intrinsic motivation [2] for continued study and investigation. Any event which follows an action and leads to the subsequent motivation of that action, by increasing or decreasing its frequency or strength, is a reinforcing event. Experience indicates that teachers can improve their skill of reinforcing student learning through practice in micro-teaching.

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[2] "An intrinsic form of motivation is one originating or existing within the student that causes him to respond, whereas an extrinsic one originates outside the student (i.e., teacher created)." Alcorn, Rinehart, and Winston, Inc., 1970, pp. 171-172.

SKILL ANALYSIS GUIDE

Education 305A

Microteacher _____ Date _____

Clinic Instructor _____

Forms of Teacher Reinforcement	Insufficient	Adequate	Excessive
A. Verbal Reinforcement Reward a student's response by saying such things as: "right", "good", "interesting question", etc.	☐	☐	☐
B. Non-Verbal Reinforcement Reward a student's response by using facial expressions or body movements. (Nodding & smiling, moving toward the responding student, focusing eyes on student, etc.)	☐	☐	☐
C. Qualified Reinforcement Reward a student's participation even while letting him know that his answer is not quite complete or appropriate. ("That's a good point but . . .")	☐	☐	☐
D. Delayed Reinforcement Reward a student's response by incorporating it into the lesson at a later point. ("As Mary pointed out before . . .")	☐	☐	☐
E. Recording Reward a student's response by writing or listing it on the chalkboard, overhead transparency, record chart, etc.	☐	☐	☐

COMMENTS:

Set induction, also known as pre-instructional orientation, prepares the student for the lesson with a dramatic introduction. In this introduction the teacher is attempting to get the student genuinely involved in the lesson or the task before the class.

The component aspects of set induction are a brief introduction (motivating set - introduction of the activity in a very interesting fashion) and a clarification of instructional goals based on the student's present knowledge and skills. (Facillitating set - the teacher prepares the pupils for what is to come).

Possible approaches to set induction are through:

1. analogy
2. demonstration
3. posing a problem to be solved by students

Examples of set induction:

1. burning a wooden match to serve as a basis for discussion of conservation of matter.
2. telling the class that Catholic children are prohibited from attending public school and must leave immediately (the teacher then goes about the business of the school day while this sinks in); discussion of religious freedom in the United States.
3. the teacher passes out an example of good and bad book reports and has the students compare them.

The establishment of cognitive rapport (set) between pupils and teacher is essential to obtain immediate involvement in the lesson and is directly related to its total effectiveness.

The pre-instructional procedures determine in large part the attitudes and expectations of the students, and strongly influence their field of perception or the way in which they interpret various aspects of the lesson. Some instructional "sets" promote learning better than others, therefore, each teacher is faced with the need to find those types of "sets" which will be most useful for her purposes and to modify these to fit the specific classroom situation. An appropriate "set" for any course should provide students with some focus and direction toward the basic objectives of the lesson, yet allow opportunity for "discovery" and pursuing individual interests.

Prior to establishing instructional set the teacher should have the behavioral objectives of the lesson well in mind. Also, she must be aware of the prerequisite knowledge and skills which students need for successful completion of the lesson, and have determined if her students have achieved this level of competence.

Through effective pre-instructional procedures students can be encouraged to identify new areas for investigation, as well as to recall unanswered questions from previous activities, and use these as a source of motivation and focus for continued study.

Skill Analysis Guide

Establishing Pre-Instructional "Set"

	Insufficient	Adequate	Excessive
A. Interest			
1. The teacher's method of introducing the lessons was in itself interesting.	☐	☐	☐
2. The teacher's method of introducing the lesson helped students become interested in the main part of the lesson.	☐	☐	☐
B. Cognitive Link The relationship or connection between the introduction and the body of the lesson was clear.	☐	☐	☐
C. Understanding The teacher gave the students some guides or cues in the introduction which were helpful in understanding the lesson.	☐	☐	☐
D. Memory The teacher's introduction helped students relate various aspects of the lesson, and this lesson to previous ones, to aid in conceptualizing and remembering the material presented.	☐	☐	☐
E. Techniques and Procedures for Experimentation			
1. The teacher gave the students instructions for manipulating the equipment and materials to be used in the lesson.	☐	☐	☐
2. The teacher gave students clear instructions for activity content and organization following the lesson orientation.	☐	☐	☐

COMMENTS:

COLLEGE OF EDUCATION
IOWA STATE UNIVERSITY
150
Education 305A - Methods of Teaching

TECHNICAL SKILLS OF TEACHING [1]

The following list of skills is representative of those being used extensively today in the training of teachers. In general most of these are applicable to a wide variety of teaching levels and to many subject-matter fields.

Stimulus Variation - Designed particularly to alleviate boredom and monotony in teacher presentations, stimulus variation can occur with a variety of learning approaches that encourage active pupil participation. Teachers can vary their teaching style through various teacher behavior:

gestures - hand and body movements can extend the teacher's oral communication;

movement - teachers need to conscienctiously practice moving about the classroom when conducting class;

focusing - the act of calling attention to a special point or concept either through verbal or gestural means; eg., "Pay special attention to this!" or pointing to or banging on an object for emphasis.

interactional processes - the teacher resorts to a variety of interactional procedures:

a. teacher-group: dialogue between teacher and entire class.
b. teacher-pupil: questions are directed to specific students.
c. pupil-pupil: teacher poses a problem but refrains from responding or commenting encouraging students to carry the discussion.

pausing - a well-planned pause can provide variety, signalling a transition, regaining attention of class, etc.

shifting sensory channels - this calls for a systematic change of procedure within a given period of instruction. Ideally it entails a shift from reading (visual perception) to discussing (oral perception). Use of a variety of media - overhead, blackboard, tape recorder, etc, - often can accomplish this kind of stimulus variation.

Set Induction - This is pre-instructional preparation of the class, often a severely neglected teaching procedure. "Observers have noted that teachers often spend little time preparing the class for an activity. Frequently they make the briefest of introductory remarks, if any at all, and expect rapt attention from their students ... Set is more than a brief introduction. Its purpose is to clarify the goals of

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[1] Adapted from Dwight Allen and Kevin Ryan. Microteaching. Reading, Massachusetts: Addison-Wesley Publishing Co., Inc., 1969.

instruction, using student's present knowledge... to involve them in the lesson."[2]

Closure - Used periodically during and at the culmination of a lesson or unit, closure helps to (1) link past and new knowledge or learning for pupils; (2) provide pupils with a feeling of accomplishment. At the end of a unit it frequently takes the form of a review or summary - "What have we learned?"

Silence and Non-verbal Cues - Traditionally most teachers tend to dominate class discussions by talking too much. Teachers can keep discussions moving by using non-verbal procedures; some of these are

a. facial: a smile, frown, a serious or quizzical look;
b. body movement: adopting a "thinker" pose; moving closer to the pupil responding;
c. head movements: "yes" and "no" nods and cocking the head;
d. gestures: pointing to a student, from student to student, a "pulling" motion to student or class, motioning to continue, stop, etc.

Reinforcement Skills - "Many good teachers know that they can increase students' involvement in their lessons by using encouragement. Frequently, however, teachers fail to develop their potential as reinforcing agents, or they get into the habit of encouraging only those students who are already doing well. Common, too, is the habit of using very few reinforcing statements from the full range available. Many teachers fall into the pattern of responding to students' answers with a bland "okay" or "good", regardless of whether the answer is a brilliant summation ... or a trite comment. Other teachers get into the habit of reinforcing only the exact answer they are looking for. In a search for correct answers from students, they unwittingly punish many students. The shy students and the slow ones tend not to participate for fear of what happens to them as failures. The wide-scale passivity among students, particularly in the lower tracks, testifies to the systematic discouragement students receive in our classrooms."[3]

Teachers have a wide variety of reinforcement possibilities at their disposal including a nonverbal look of encouragement or gesture of nodding satisfaction to the verbal "Excellent!" Verbal reinforcement ranges from the emphatic "Good!" or "Great!" to "That's a good start. Can you take it a bit further?" Another type of nonverbal reinforcement is to write the pupil's response on the blackboard. Teachers must consider the psychological significance in reinforcement as a teaching procedure and capitalize on its use in their unique teaching styles.

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[2] Ibid., pp. 18-19

[3] Ibid., p. 22

Higher Order Questions - "Higher order questions are defined as questions which cannot be answered from memory or simple sensory description. They call for finding a rule or principle rather than defining one. The critical requirements for a 'good' question is that it prompts students to use ideas rather than just remember them."[4]

Norris Sanders has adapted Bloom's Taxonomy of Educational Objectives and identified seven categories of questions the last six of which are categorized as higher order questions. Basic definitions of each of the seven categories are:

"1. Memory: The student recalls or recognizes information.
2. Translation: The student changes information into a different symbolic form or language.
3. Interpretation: The student discovers relationships among facts, generalizations, definitions, values, and skills.
4. Application: The student solves a lifelike problem that requires the identification of the issue and the selection and use of appropriate generalizations and skills.
5. Analysis: The student solves a problem in the light of conscious knowledge of the parts and forms of thinking.
6. Synthesis: The student solves a problem that requires original, creative thinking.
7. Evaluation: The student makes a judgement of good or bad, right or wrong, according to standards he designates."[5]

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[4] Gerald Parks. "Technical Skills of Teachers." A mimeographed handout based on material prepared by the Upper Midwest Regional Educational Laboratory.

[5] Norris M. Sanders. Classroom Questions: What Kinds? New York: Harper and Row, 1966.

APPENDIX I:

RULES OF OBSERVATION FOR FLANDERS INTERACTION ANALYSIS

Rule 1: When not certain in which of two or more categories a statement belongs, choose the category that is numerically farthest from Category 5. This is true except when one of the two categories in doubt is Category 10, which is never chosen if there is an alternative category under consideration. Because those categories farthest from the center (5) of the category system occur less frequently, the observer maximizes information by choosing the less frequently occurring category (except 10) when there is a choice.

Rule 2: If the primary tone of the teacher's behavior has been consistently direct or consistently indirect, do not shift into the opposite classification unless a clear indication of shift is given by the teacher.

Rule 3: The observer must not be overly concerned with his own biases or with the teacher's intent. Rather, he must ask himself the question, "What does this behavior mean to the pupils as far as restriction or expansion of their freedom is concerned?"

Rule 4: If more than one category occurs during the three-second interval, then all categories used in that interval are recorded; therefore, record each change in category. If no change occurs within three seconds, repeat that category number.

Rule 5: Directions are statements that result (or are expected to result) in observable behavior on the part of children. Examples of directions are "Go to the board, read question 3, go to your seat, etc." Some teacher statements sound like directions but cannot be followed by observed student compliance. These statements often precede the actual direction; for example, "Let's get ready now to go to recess" (Orientation, Category 5), "Now Row Five get their coats" (Category 6).

Rule 6: When the teacher calls on a child by name, the observer ordinarily records a 4.

Rule 7: If there is a discernible period of silence (at least 3 seconds), record one 10 for every 3 seconds of silence, laughter, board work, etc.

Rule 8: When the teacher repeats a student answer and the answer is a correct answer, this is recorded as a 2. This tells the student he has the right answer and, therefore, functions as praise.

Rule 9: When the teacher repeats a student idea and communicates only that the idea will be considered or accepted as something to be discussed, a 3 is used.

Rule 10: If a student begins talking after another student (without the teacher's talking), a 10 is inserted between the 9's or 8's to indicate the change of student.

Rule 11: Statements such as "Uh huh, yes, yeah, all right, okay," which occur between two 9's are recorded as 2 (encouragement). These statements function as encouragement (the student continues talking after the 2) and are, therefore, classified as 2.

Rule 12: A teacher joke, which is not made at the expense of the children, is a 2. If the joke makes fun of a child, then it is coded as a 7.

Rule 13: Rhetorical questions are not really questions; they are merely part of lecturing techniques and should be categorized as 5's.

Rule 14: A narrow question is a signal to expect an 8. If the student gives a specific predictable answer, this is an 8. If the child expands, documents, or justifies his answer, the observer should begin tallying 9's.

Rule 15: An 8 is recorded when several students respond in unison to a narrow question.

APPENDIX J:

INTERRATER AND INTRARATER RELIABILITY FOR TWO TEACHING PRESENTATIONS AS DETERMINED BY SCOTT'S COEFFICIENT

Interrater Reliability Determined by Scott's Coefficient of Reliability
(Student Number 213)

Proportion of Tallies in Each Category of the Flanders System

Category	1	2	3	4	5	6	7	8	9	10
Rater #1 (%)	0	5	0	5	77	1	2	3	4	3
Rater #2 (%)	0	5	0	6	75	1	2	4	4	3
Percentage Difference	$\overline{\overline{0}}$	$\overline{0}$	$\overline{0}$	$\overline{1}$	$\overline{2}$	$\overline{0}$	$\overline{0}$	$\overline{0}$	$\overline{1}$	$\overline{0}$ = 4%
Average % (1 + 2)	0	.05	0	.055	.76	.01	.02	.035	.04	.03
Average % $(1 + 2)^2$	0	.0025	0	.003025	.5776	.0001	.0004	.001225	.0016	.0009 = .58

P_o = 100% - 4% = 96%

$$Pi = \frac{P_o - P_e}{1 - P_e} = \frac{.96 - .59}{1 - .59} = \frac{.37}{.41} = .90$$

Interrater Reliability Determined by Scott's Coefficient of Reliability
(Student Number 213)

Proportion of Tallies in Each Category of the Flanders System

Category	1	2	3	4	5	6	7	8	9	10	
Rater #1 (%)	0	5	0	5	77	1	2	3	4	3	
Rater #2 (%)	0	5	0	6	73	2	1	0	8	5	
Percentage Difference	$\overline{0}$	$\overline{0}$	$\overline{0}$	$\overline{1}$	$\overline{4}$	$\overline{1}$	$\overline{1}$	$\overline{3}$	$\overline{4}$	$\overline{2}$	= 16%
Average % (1 + 2)	0	.05	0	.055	.75	.015	.015	.015	.06	.04	
Average % $(1 + 2)^2$	0	.0025	0	.003025	.5625	.000225	.000225	.000225	.0036	.0016	= .57

P_o = 100% - 16% = 84%

$$Pi = \frac{P_o - P_e}{1 - P_e} = \frac{.84 - .57}{1 - .57} = \frac{.27}{.43} = .63$$

Interrater Reliability Determined by Scott's Coefficient of Reliability
(Student Number 213)

Proportion of Tallies in Each Category of the Flanders System

Category	1	2	3	4	5	6	7	8	9	10
Rater #1 (%)	0	5	0	6	75	1	2	4	4	3
Rater #2 (%)	0	5	0	6	73	2	1	0	8	5
Percentage Difference	$\overline{0}$	$\overline{0}$	$\overline{0}$	$\overline{0}$	$\overline{2}$	$\overline{1}$	$\overline{1}$	$\overline{4}$	$\overline{4}$	$\overline{2}$ = 14%
Average % (1 + 2)	0	.05	0	.06	.74	.015	.015	.02	.06	.04
Average % $(1 + 2)^2$	0	.0025	0	.0036	.5476	.000225	.000225	.0004	.0036	.0016 = .56

$P_o = 100\% = 14\% = 86\%$

$$Pi = \frac{P_o - P_e}{1 - P_e} = \frac{.86 - .56}{1 - .56} = \frac{.3}{.44} = .68$$

Interrater Reliability Determined by Scott's Coefficient of Reliability
(Student Number 323)

Proportion of Tallies in Each Category of the Flanders System

Category	1	2	3	4	5	6	7	8	9	10	
Rater #1 (%)	0	0	0	7	86	3	0	0	1	3	
Rater #2 (%)	0	0	0	7	86	3	0	0	1	3	
Percentage Difference	—	—	—	—	—	—	—	—	—	—	= 0%
Average % (1 + 2)	0	0	0	.07	.86	.03	0	0	.01	.03	
Average % $(1 + 2)^2$	0	0	0	.0049	.7396	.0009	0	0	.0001	.0009	= .74

$P_o = 100\% - 0\% = 100\%$

$$Pi = \frac{P_o - P_e}{1 - P_e} = \frac{1.00 - .75}{1 - .75} = \frac{.25}{.25} = 1.00$$

Interrater Reliability Determined by Scott's Coefficient of Reliability
(Student Number 323)

Proportion of Tallies in Each Category of the Flanders System

Category	1	2	3	4	5	6	7	8	9	10
Rater #1 (%)	0	0	0	7	86	3	0	0	1	3
Rater #2 (%)	0	0	0	4	82	2	0	0	1	11
Percentage Difference	$\overline{0}$	$\overline{0}$	$\overline{0}$	$\overline{3}$	$\overline{4}$	$\overline{1}$	$\overline{0}$	$\overline{0}$	$\overline{0}$	$\overline{8}$ = 16%
Average % (1 + 2)	0	0	0	.055	.84	.025	0	0	.01	.07
Average % $(1 + 2)^2$	0	0	0	.003025	.7056	.000625	0	0	.0001	.0049 = .71

P_o = 100% - 16% = 84%

$$Pi = \frac{P_o - P_e}{1 - P_e} = \frac{.84 - .71}{1 - .71} = \frac{.13}{.29} = .45$$

Interrater Reliability Determined by Scott's Coefficient of Reliability
(Student Number 323)

Proportion of Tallies in Each Category of the Flanders System

Category	1	2	3	4	5	6	7	8	9	10
Rater #1 (%)	0	0	0	7	86	3	0	0	1	3
Rater #2 (%)	0	0	0	4	82	2	0	0	1	11
Percentage Difference	$\overline{0}$	$\overline{0}$	$\overline{0}$	$\overline{3}$	$\overline{4}$	$\overline{1}$	$\overline{0}$	$\overline{0}$	$\overline{0}$	$\overline{8}$ = 16%
Average % (1 + 2)	0	0	0	.055	.84	.025	0	0	.01	.07
Average % $(1 + 2)^2$	0	0	0	.003025	.7056	.000625	0	0	.0001	.0049 = .71

$P_o = 100\% - 16\% = 84\%$

$$Pi = \frac{P_o - P_e}{1 - P_e} = \frac{.84 - .71}{1 - .71} = \frac{.13}{.29} = .45$$

APPENDIX K:

THE FUNDAMENTAL INTERPERSONAL RELATIONS ORIENTATION--

BEHAVIOR QUESTIONNAIRE

Please use answer sheet "C" for this questionnaire.

WAYS YOU INTERACT WITH PEOPLE

Purpose: This questionnaire is designed to explore the typical ways you interact with people. There are, of course, no right or wrong answers; each person has his own ways of behaving.

Sometimes people are tempted to answer questions like these in terms of what they think a person should do. This is NOT what is wanted here. We would like to know how you actually behave.

Some items may seem similar to others. However, each item is different so please answer each one without regard to the others. There is no time limit, but do not debate long over any item.

Directions: For each statement below, decide which of the following answers best applied to you. Mark that number on the answer sheet in the proper blank. Please be as honest as you can.

1. usually 2. often 3. sometimes 4. occasionally 5. rarely 6. never

1. I try to be with people.
2. I let other people decide what to do.
3. I join social groups.
4. I try to have close relationships with people.
5. I tend to join social organizations when I have an opportunity.
6. I let other people strongly influence my actions.
7. I try to be included in informal social activities.
8. I try to have close, personal relationships with people.
9. I try to include other people in my plans.
10. I let other people control my actions.
11. I try to have people around me.
12. I try to get close and personal with people.
13. When people are doing things together I tend to join them.
14. I am easily led by people.
15. I try to avoid being alone.
16. I try to participate in group activities.

For each of the next group of statements, choose one of the following answers:

1. most people 2. many people 3. some people 4. a few people 5. one or two people 6. nobody

17. I try to be friendly to people.

18. I let other people decide what to do.

19. My personal relations with people are cool and distant.

20. I let other people take charge of things.

21. I try to have close relationships with people.

22. I let other people strongly influence my actions.

23. I try to get close and personal with people.

24. I let other people control my actions.

25. I act cool and distant with people.

26. I am easily led by people.

27. I try to have close, personal relationships with people.

For each of the next group of statements, choose one of the following answers:

1. most people 2. many people 3. some people 4. a few people 5. one or two people 6. nobody

28. I like people to invite me to things.

29. I like people to act close and personal with me.

30. I try to influence strongly other people's actions.

31. I like people to invite me to join in their activities.

32. I like people to act close toward me.

33. I try to take charge of things when I am with people.

34. I like people to include me in their activities.

35. I like people to act cool and distant toward me.

36. I try to have other people do things the way I want them done.

37. I like people to ask me to participate in their discussions.

38. I like people to act friendly toward me.

39. I like people to invite me to participate in their activities.

40. I like people to act distant toward me.

For each of the next group of statements, choose one of the following answers:

1. usually 2. often 3. sometimes 4. occasionally 5. rarely 6. never

41. I try to be the dominant person when I am with people.

42. I like people to invite me to things.

43. I like people to act close toward me.

44. I try to have other people do things I want done.

45. I like people to invite me to join their activities.

46. I like people to act cool and distant toward me.

47. I try to influence strongly other people's actions.

48. I like people to include me in their activities.

49. I like people to act close and personal with me.

50. I try to take charge of things when I'm with people.

51. I like people to invite me to participate in their activities.

52. I like people to act distant toward me.

53. I try to have other people do things the way I want them done.

54. I take charge of things when I'm with people.