

INFLUENCING BELIEF SYSTEMS THROUGH
TEACHER IN-SERVICE TRAINING AND
STUDENT GROUP COUNSELING

By

T. DALE POLLARD
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Bachelor of Science in Education
Southeast Missouri State College
Cape Girardeau, Missouri
1968

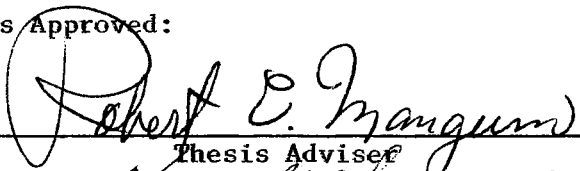
Master of Arts in Education
Murray State University
Murray, Kentucky
1969

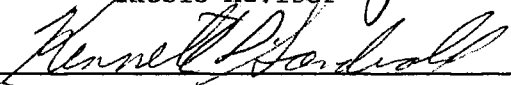
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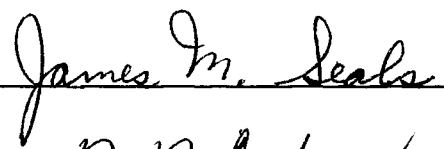
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Thesis Approved:



Thesis Adviser








Dean of the Graduate College

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CHAPTER I

NATURE OF THE PROBLEM

Introduction

Several attempts have been made in the past by educators to formulate educational objectives. These are usually stated in broad, general objectives, but intensive enough to cover the vital areas of students' needs. The difficulties in the implementation of these objectives are great, however, if not impossible to effect in the public school. (9) Of those objectives which appear to be most difficult for schools to deal with are those within or related to the affective area of learning. The learning process in public education, according to previously stated objectives is not only concerned with cognitive and physical development, but affective development also.

Usually recognized by educators as meritorious efforts in the development of specific educational objectives, are the productions of Bloom (3) in the cognitive domain and Krathwohl, Bloom, and Masia (42) in the affective domain. These taxonomies are arranged in an ascending fashion, requiring a greater amount of student activity at each successive level. It seems that many classrooms are devoid or lacking in activity, both in the cognitive and affective domains at the higher levels. The writer is concerned with this apparent lack of opportunities available for students in public education to develop in these higher abilities. Those specific personal

abilities delineated by the above authors and deserving special emphasis are Evaluation (involving a value judgment) in the Cognitive Domain and almost all of the affective objectives. Those in the Affective Domain, appearing to be most neglected or mishandled in many classrooms are: (1) Valuing, concerning the worth or value a student attaches to a particular object, phenomenon, or behavior, (2) Organization, concerning the bringing together of different values, resolving conflicts between them and beginning the building of an internally consistent value system, and (3) Characterization by a Value or Value Complex, which implies that the student has a value system which has controlled his behavior for a sufficiently long time which results in the development of a characteristic life style.

The unattained higher levels in the Cognitive Domain may be unreached, not only because of a lack in cognitive experiences, but possibly from an underdevelopment in the Affective Domain as well. Objectives in the Affective Domain are concerned with the developing of attitudes, values, and beliefs about ones environment. The acquisition of certain attitudes, values, and beliefs, per se may be necessary to our society's existence, however, the process in which they are acquired also merits our earnest consideration. That is, are they transmitted from one person to another, neatly packaged, and ready for consumption, or is the student allowed the privilege of being confronted with dilemmas, complex issues, and impasses with his own abilities and resources at hand to creatively resolve? It seems that an insufficient amount of emphasis has been placed here and that an active program involving affective objectives in the learning process would be educationally desirable.

This prominence of affective factors in learning is emphasized by Rogers who states that:

Learning will be facilitated, it would seem if the teacher is congruent. This involves the teacher's being the person that he is, and being openly aware of the attitudes he holds. It means that he feels acceptant toward his own real feelings. Thus he becomes a real person in the relationship with his students. He can be enthusiastic about subjects he likes, and bored by topics he does not like. He can be angry, but he can also be sympathetic. Because he accepts his feelings as his feelings, he has no need to impose them on his students, or to insist that they feel the same way. He is a person, not a faceless embodiment of a curricular requirement, or a sterile pipe through which knowledge is passed from one generation to the next.

Learning, rather "significant learning," is more than an accumulation of facts. This type of learning emphasizes pervasiveness and makes a difference in the individual's behavior, future course of action, attitudes, and personality. It is not just an accretion of knowledge, but interpenetrates with every portion of his existence. (49)

Kelly (41) also points out the importance of affective learning. What a person knows is not as important as how a person feels. How one feels controls behavior, while what one knows does not. One's knowledge is used in behavior, but the way it is used depends upon positive or negative feelings. A saint and a demon may possess similar knowledge.

He notes further that subject matter and feelings are inseparable. Everyone who learns something has some feeling about it. Therefore, we should reconsider our ideas and attitudes toward the subject matter itself. Too often educators have used the rigorous subject matter approach and have closed personalities when they should have been opening them. Students have been subjected to fear tactics (which were intended to motivate) instead of being attracted to the material. Curriculum materials are chosen too often, not as tools, but as ends in the educational process. Coercion is used frequently by teachers to effect adult aims and goals in learning. The resulting effects of

coercion are negative affects preceding open hostility and rejection on the part of both learner and teacher. (41)

If affective properties are so important in the educational process, why are they apparently lacking in many classrooms? The writer has conjectured that it may have something to do with the role and function of the teacher which possibly encompasses more than techniques, sizes of classrooms, and materials. Could it be that teachers who acquire their attitudes, values, and beliefs mainly from sources of "authority" will in turn expect their students to do the same? If this is the case, which receives support from others, the teacher may expect her students to adhere to her expressed values, attitudes, or beliefs without allowing the student an opportunity to investigate independently. Some students don't learn well using this approach (which points out the difference in students), but make considerable progress when they are freed to do their own thinking. (27, 53)

Pre-service prospective teachers' preparation frequently does not direct enough attention toward affective development. This lack of attention is observed in many universities which have teacher education programs. Oftentimes they are slow in responding to suggestions for changes to be made, with some resentment toward those suggesting these changes. This is in direct contrast to observations of eagerness and openness to change in the public school, which is very apparent in the elementary schools. (28)

During the school year, and many times in the summer months, teachers involve themselves in various conferences, seminars, courses, and workshops. These usually, however, do not provide experiences for teachers directed toward affective growth. Consequently, there is a

need for more in-service assistance with emphasis on affective growth, as teachers interact with students during the course of the school year.

School service personnel (specialists in various fields) are engaged frequently with students in small groups or individually, which have been referred to them. Following the initial contact, teacher conferences relative to the referred students are conducted often with plans and strategies aimed toward changing the student's behavior. During these meetings, many specialists may perceive the need for a major change in attitude on the teacher's part if improved student behavior is to occur, but feel helpless in dealing with this sensitive area.

If there exists a great lack in affective development among teachers, it seems that this lack may influence the affective growth of their students. It's not an unusual occurrence to find students striving to fulfill the stated requirements of a course in order to earn the desired grade or mark, while they are thoroughly disinterested with the busy work and see little good which may be derived from it. Students in many classrooms have become compliant to a classroom atmosphere which has little to offer in creativity or affective development. Could it actually be that a lack in affective development in teachers will influence students in this way? Supporting the affirmative position of the question is O. J. Harvey whose research has taken him from the laboratory into the classroom to examine the atmospheres which enhance and retard several desired skills such as: attitudes in teachers and students that foster openness, sensitivity to change, the ability to withstand stress, and to behave adaptively and creatively.

The research has focused mainly on how an individual's belief system affects these skills, how such come to be formed, and ways in which they can be changed in the direction of greater openness, stress tolerance, and creativity. His conclusions are that teachers' beliefs (deeply held attitudes and values) affect both the way they behave in the classroom and the influence they exert upon their students. (27)

The ability to promote openness and incompleteness appears necessary for creativity and problem solving. Although incompleteness and openness seem to possess great powers in the motivating of students toward learning and achievement, many classrooms are lacking. Hence, ways of working with teachers as they influence the development of students at the affective level in the school setting should therefore be of great importance to educators.

Statement of the Problem

A person's beliefs influence the way he interacts with other individuals. Because of this influence upon a person's behavior, it is assumed that a teacher may affect the learning environment in her classroom. Teachers holding different beliefs also have a differential effect upon the way students learn, some toward openness and creativity, while others move toward closedness and simplicity. The question is: What assists teachers in affective development or the acquiring of beliefs which would facilitate the expression of creativity and openness in their classrooms?

Purpose of the Study

The purpose of the study is to investigate the effects of two

in-service training approaches upon teachers' belief systems.

Since students also need assistance in affective development, being probable recipients of uncontested adult beliefs, the investigation will assume a dual purpose and encompass a search for effective means of working with students to enhance affective growth also.

Definition of Terms

Belief - A person's deeply held attitudes and values.

Attitude - A readiness to respond in a certain way when the appropriate situation occurs. It is generally defined as a learned evaluative predisposition to direct one's behavior consistently toward, or away from some class of objects.

Ego-involving Stimuli - Stimuli with high affective properties which possess potential for the eliciting of a personal expression which reflects one's values and beliefs related to the topics or stimuli presented.

Belief System - A set of predispositions to perceive, feel toward, and respond to ego-involving stimuli and events in a consistent way.

Concrete Functioning - Mental functioning characterized by simplicity in cognitive structure, extreme tendencies toward either-or and good-bad judgments, reliance upon status and power rather than information and expertise relative to problem solving, a noticeable intolerance of ambiguity and uncertainty, great inability to change one's stated position, a poor demonstration of being able to assume the thinking of another person, an obvious tendency toward trite and normative behavior with a lower propensity toward innovation and creativity, and a tendency to form and generalize impressions of other people from

highly incomplete information.

Abstract Functioning - Mental functioning characterized by high task orientation, information seeking, low dogmatism, creativity, openness to receive information from many sources, and a high level of independence in expressions requiring an exercise of personal judgment.

Research Questions

The basic questions to be answered in this study are: (1) Does an in-service program with specific involvement in group discussion, listening to prerecorded tapes, and reading the book: Expanding the Self: Personal Growth for Teachers, lead to more abstractness in teachers' belief systems? and (2) Do students move toward more abstractness in their belief systems as a result of discussing ego-involving stimuli in a group setting?

Major Assumptions

1. Assessing belief systems has construct validity.
2. The Conceptual Systems Test validly classifies respondents on the concreteness-abstractness continuum. Scores on the test adequately distinguish between correlative behaviors of concrete functioning individuals from those of abstract functioning individuals.
3. The expressed beliefs characteristic of the more abstract functioning persons are educationally desirable.
4. The topics used in the group discussions were sufficiently ego-involving.
5. The specific activities (group discussion, readings, and listening to tapes) included in the in-service program complement each

other in the common goal of affective growth.

Limitations

1. The findings of this study were limited to the 30 teacher volunteers of the school faculty and the 52 student volunteers from four sections of the Family Relations classes in the high school.
2. No attempt was made to control the variables outside of the group discussion sessions beyond the scope of the planned activities in the treatment package for each group.
3. The validity and reliability of the findings were dependent upon the validity and reliability of the measuring instrument.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Research regarding attitude change has been extensive, yet irrelevant in many ways to the present investigation. The reasons why these many research endeavors appear inapplicable are because of dissimilarities in subjects, inappropriateness of treatment, and differences in the experimental environment when compared with these respective items in the public school. Therefore, the selection of literature to be included in this chapter is made on the basis of its pertinence to educational services in the public schools.

The text of the following review will be developed in four sections. The first section will include material related to attitude change. The second section will be concerned with studies germane to the need for research in education regarding affective growth. In the third section, studies related to characteristics of concrete and abstract functioning individuals will be presented. Section four concludes the chapter with research given on the instrument used in the research project.

Studies Related to Attitude Change

An approach to attitude change which is acceptable in the school milieu is group discussion. Its effectiveness in producing change is

supported by many researchers.

Simpson (51) stated that it is a fact and well substantiated that changes in attitudes can be produced through discussion. In an experiment with Educational Psychology and Psychology of Learning students using the Minnesota Teacher Attitude Inventory, he produced results which showed that small group discussion caused significant shifts: (1) toward certainty of the rightness of individual positions on issues considered and (2) toward disagreement with the statements discussed. Thus the discussant seems to feel more competent in an area after he has discussed it. On the other hand, he is likely to feel less sure that statements forming the original basis for discussion are sound. Briefly expressed, the discussant seems to feel more confidence in himself and less confidence in the statements presented for discussion.

In a study by Miller (45) group discussion with third year secondary school students resulted in a significant change of attitude toward racial groups. The subjects were selected on the basis of sociometric data which allowed the researcher to form two groups, one of high cohesiveness and the other of low cohesiveness. The sessions were undirected when considering the experimenter's position. He was passive and nondirective, averting any questions put directly to him. Significant changes in attitude were noted in both groups.

Garfield (19) investigated the effects of group counseling upon creativity. It was hypothesized that creativity is positively related to mental health and that subjects who were judged improved after 30 hours of group counseling would also show improvement on variables associated with creativity. Thirty-eight subjects from an urban university participated in the project. They were pre- and posttested on

various measures of creativity and pre- and post-rated on Rogers' elements of creativity, i.e. (1) openness to experience; (2) locus of evaluation; (3) ability to toy with ideas. At the end of the experiment, subjects were assigned to either an improved or unimproved category on the basis of therapists' ratings, outside judgments, and Q adjustment scores. The results indicate that improvement in group counseling correlates significantly with gains in ratings on the more dynamic aspects of creativity.

Group discussion displays its usefulness in permitting individuals to discuss topics without making firm commitments before considering data from several sources. To force a person, on the other hand, into a premature stand in regard to the attitudinal topic may be detrimental to his progress toward creativity. Bettinghaus (2) experimented with 120 undergraduates and produced results which support this observation. He found that when individuals are required to publicly commit themselves to a position on a topic, they tend to be significantly more reluctant to change their attitudes than those individuals who are not required to make known their opinions on the issue.

Greenwald's (22) results concur with those of Bettinghaus'. He discovered that subjects who were required to publicly commit themselves to a position on an issue demonstrated significantly less behavior change in the direction of the communication than those who were not required to publicly commit themselves.

Hovland (36) has given a possible explanation for this phenomenon. He suggests the possibility of a "boomerang" effect occurring when one hears messages which argue counterattitudinally to their existing beliefs. The arguments may not only fail to change the subject's

attitudes in the direction of the communication, but in fact change their attitudes in a negative direction such that the subjects appear to hold their original position even more tenaciously than prior to receiving the persuasive communication.

The effects of group discussion may be maximized toward changing attitudes if planned with definite objectives in mind. One aim in the process of attitude change is to encourage all members to participate as directly as possible in the discussions. (25) The perceived threats by those group members who are in greatest need of this involvement should be dealt with prudently and cautiously by the group leader. As the group continues to meet, cohesiveness among members becomes apparent. Another objective is beginning to be accomplished in attitude change when this occurs. Members now, through the process of group pressure will attempt to force others to conform. (44) For this pressure to be effective, a third aim must be achieved, and that is for the topic or attitudinal stimuli at hand to have potential for the eliciting of a strong degree of commitment from the group members. (40) Finally, such conformity or commitment will become maximized if the attitudinal topic is presented in an ambiguous manner. (16)

Haiman (24) viewed the effects of courses devoted to sensitivity and skills training in group processes at a large university. Pre- and posttests designed to measure changes in the extent of open-mindedness were administered to 425 students. The results provide clear evidence, with the exception of Phase 4 that the courses in discussion and group leadership did produce a significant change in open-mindedness. The author conjectures that the possible reason for insignificance in Phase 4's results was that pretesting showed the respondents to be

relatively high in open-mindedness before the treatment began.

Leib and Snyder (43) compared group discussion with the lecture method using 28 underachieving college students. As a result of the group discussions, participants showed significant gains over their student counterparts in self-actualization while suffering no losses in grades. The researchers felt that the special attention awarded these underachievers fulfilled lower level needs and released them for self-actualization.

Barlow (1) investigated the effects of small encounter group experiences upon individuals' perceptions. He selected 33 subjects between the ages of 21 and 50 to participate in one of three groups. The groups varied in numbers, meeting places, number of hours in the group experience, and leaders. A semantic differential attitude measuring device was designed for the project, using twenty bipolar adjectives to measure the evaluative perception of the subjects on fifteen religious concepts. The results from the data conclude that the interaction of the small basic encounter group does produce change in attitudes of individuals. The researcher advocates this method as a viable means of behavior change which holds many possibilities for persons in our society responsible for molding attitudes and modifying behavior.

The Need for Affective Development in Education

Concentration upon affective development among teachers and prospective teachers should not only occur in the public schools, but also in the teacher training institutions themselves. Some efforts to

provide such training for teacher trainees has been observed, but a unified approach is lacking in many universities. (28)

On the positive side are the results of Carr's (8) investigation with students enrolled as education majors in a university setting. He found that large changes in attitude towards themselves and others occurred after taking a course in human development.

In another study with favorable features, 250 undergraduates in teacher education were pre- and posttested on the Minnesota Teacher Attitude Inventory in conjunction with a ten week teacher education program. The results showed a significant change had occurred in the trainees in the direction of more liberal positions in attitude toward children.

On the negative side are two studies, which are not contradictory to the above studies, but are somewhat different, in that they focus upon the ineffectiveness of the student teaching experience. First, are the findings of Jacobs (38) who notes the effectiveness of most teacher education programs in being able to effect a progression in students from an impersonal, formal, and rigid style of behavior through intermediate styles to a personal, informal, and indirect style of behavior. This continuum is similar to the one which shows progression from an authoritarian point of view through intermediate steps to a democratic point of view. The present investigation confirms the observations above, indicating that such modifications were accomplished in the initial courses of professional education offered by the institutions, but not in the student teaching semester. The evidence, in fact, points out that trends toward more democratic responses were reversed by the student teaching experience. One of the reasons for

this reversal, he observes, may be due to "unrealistic" changes in prospective teachers' attitudes during the initial phases of teacher education compared with what they find in the teaching situation. Another reason may be that the student teaching experience presents situations that create a conflict with previous learnings in education courses. The researcher concludes with a plea for more cooperation between teacher training institutions and public schools in regard to the education of prospective teachers.

In the same vein of thought is a study by Dutton (14), which also points out the aftermath of student teaching experiences on 91 elementary school student teachers. This study deals with manifest anxiety as a variable in attitude change during student teaching, serving as a preliminary step in the study of effects of anxiety upon the performance of student teachers. As a result of the student teaching encounter, he reports that both highly anxious and nonanxious elementary school student teachers changed their attitudes toward youth in a negative direction. The author suggests that the influences of student teaching may be a critical factor in the development of teachers' attitudes toward children. By the way, the 150 students enrolled in methods courses only, maintained their high positive attitudes toward children throughout the semester.

Classroom atmospheres may contribute greatly to the change in attitudes noted in the two studies referred to above. One writer remarks:

Many public and private schools list as one of their primary objectives the development of human potential and individual growth. Yet most classrooms in the United States are dominated by methods that place a heavy emphasis upon productivity and achievement according to arbitrarily established standards. Teachers feel pressured to help

children learn about "things" and to have facts repeated to the satisfaction of others. In addition, there is an increasing regard to behavioral objectives and scientific evaluation. Both teachers and counselors should be cautioned, however, that although such procedures may be important and scientifically warranted, they should not lead to a de-emphasis of personal feelings and meanings in the classroom. This is already being done at an alarming rate. (46)

Flanders (18) in his studies, has also placed emphasis on the classroom environment. He has studied closely the interaction that frequently takes place between child and teacher in the classroom. After years of study and observation, he has arrived at the rule of two-thirds: "About two-thirds of the time in the classroom someone is talking. The chances are two out of three that this person is the teacher. When the teacher talks, two-thirds of the time is spent by teachers' expressing their opinion, giving facts, some direction, and occasionally criticizing the pupils."

In another study, Flanders (17) notes that the type of verbal exchange between teacher and student is very interesting. Teachers, he states, use less than three percent praise and encouragement, and less than five percent of their talking time reacting to, and using ideas that students initiated. Even more recently, the Systematic Observation Conference held at the University of Florida reported that less than one-half of one percent of teacher talk is directed to a child's feelings, either negative or positive! (46)

Dinkmeyer offers suggestions for a resolution of the dilemma:

If educational research and theory are to be an accepted part of practice, it is vital that a staff member who is a specialist in consultation and counseling encourage teachers to recognize the relationship between cognitive and affective development and its significance for the educative process. (13)

The specialist can affect the learning climate by organizing and collaborating with teacher groups. Teacher participation in the group allows expressions to be emitted which reflect the teachers' attitudes and beliefs regarding children. The group experience also provides an opportunity to affect a large number of children in a most significant manner.

Some functions the leader performs in effective teacher group consulting include the following:

1. Structuring the group from the beginning so purposes and focus are apparent.
2. Being sensitive to verbal and nonverbal cues.
3. Linking related ideas of members in an attempt to underline similar problems, therefore bringing cohesiveness to the group.
4. Enabling quiet members to participate verbally as well as through spectator therapy.
5. Helping the group focus on what is happening here-and-now as well as in their classrooms.
6. Focusing on assets and strengths to develop feelings of adequacy.
7. Helping the group to clarify problems and find alternate solutions.
8. Enabling teachers to make a commitment to action. (13)

Teachers may become more involved outside of the group sessions by implementing guidance activities in the classroom. The specific activities may include sociometrics, scattergrams, role-playing, incomplete sentences or stories, pictorial techniques, and group guidance materials. (13)

Characteristics of Concrete and Abstract

Functioning Individuals

The postulated differences between concrete and abstract functioning individuals could be generalized to many areas of one's existence. The present concentration, however, will be upon the differences relative to the educational process. Two applicable areas have been

investigated: (1) Differential effects of arousal and (2) Characteristics of an effective source.

Differential Effects of Arousal

Studies by Harvey, Reich, and Wyer (29), Graybow and Harvey (20), and Harvey (27) confirmed the earlier hypothesis that:

Involvement and arousal within the concrete individual results in domination by the autonomic system and an inability to cerebrally and informationally process inputs, while involvement and autonomic activity within the abstract person does not readily interfere with his cerebral functioning and information processing. (30)

The results of the three studies were interpreted as being consistent with the assumptions concerning the developmental histories of these individuals, i.e. concrete individuals presumably have a high level of arousal conditioned to stimuli about which they report intense attitudes. On the other hand abstract individuals either do not have conditioned emotional responses to stimuli toward which they have intense attitudes, or their differentiation is not impaired by arousal. Additional evidence points to anxiety acting as a possible facilitator for abstract individuals.

Confirmation of the general hypothesis that differential performance of concrete and abstract subjects is mediated by arousal and autonomic activity would have clear implications for educators. It would say, for example, that in order for the more concrete students to learn in ways we espouse, that is inductively and insightfully, that they particularly must be surrounded by conditions that minimize the activity of the autonomic system. This, in turn opens up a broad but significant area of research: to determine the classroom and pedagogical methods that accomplish this. Of these, clearly attributes of the teacher and the environment he or she creates in the classroom are crucial. The methods of System 1 teachers, which involve high surveillance, high dictatorialness, high costs to students for failure and the apparent conception of students as chattel or pawns, to borrow a term from Dick DeCharms, are bound to result in failure for most students,

particularly the more concrete ones. This isn't to say that the methods of the System 1 instructor may not effectively inculcate certain responses catechismically and as conditioned responses, but they cannot produce learning with insight and the ability to be open, independent, flexible, and creative individuals. (27)

Characteristics of an Effective Source

The concrete functioning person is highly responsive to individuals of high status and power. Four studies by Harvey and Beverly (31), Harvey (32), Harvey (33), and Garso (21) have dealt specifically with source characteristics and their influences on representatives of different belief systems. The findings reveal that while the concrete functioning individual may be very receptive to the message of a high source, he tends to move slowly in understanding.

An educational strategy for moving the concrete functioning individual toward abstractness is to have a great deal of structure and guidance from high sources initially, but with time and experience, move away from external structure toward requiring the individual to make more and more decisions on his own. This, hopefully, would wean the individual from "outside authorities" and help him take the responsibility for his own criteria and behavior. (28)

Studies Related to the Instrument

From the writings of Harvey, Hunt, and Schroder (30), plus a series of research studies, two instruments for measuring concreteness-abstractness have been developed. The terms refer to a general and presumably more or less standardized way an individual organizes and articulates the concepts of the relevant aspects of his environment.

The This I Believe test is a subjective measure of ones placement on the concreteness-abstractness continuum. Stimulus items are provided for the respondents. Each begins: "This I believe about____," with the referents being "religion," "education," "marriage," "friendship," "the American way of life," "sin," "the family," "compromise," "capital punishment," and "world government." Two or three sentences are requested for each item with an item time limit of two minutes. A guide and sample responses are provided for scoring.

The Conceptual Systems Test was later developed, using statements made by the subjects on the This I Believe test. An objective instrument was the result. Subjects respond by marking the items with one of the numerical options provided. They are: 1 - I agree completely, 2 - I agree mostly, 3 - I agree and disagree about equally, 4 - I disagree mostly, 5 - I disagree completely. Using Tyron's method of cluster analysis, six highly consistent clusters have been identified. They are: Divine Fate Control, Need for Structure and Order, Need to Help People, Need for People, Interpersonal Aggression, and General Distrust. A scoring key with cutoff levels for concrete-abstract classifications is provided. (27)

Research followed which concentrated on identifying classroom behaviors peculiar to persons classified as either concrete or abstract in their belief systems. Student behaviors were also investigated and identified which are characteristic of those behaviors expected when the classroom teacher is classified as either concrete or abstract.

In the first of these studies, concrete and abstract teachers of kindergartners and first-graders were observed in the classroom and rated by pairs of trained judges on 26 dimensions assumed to reflect

attributes relevant to the fostering of flexibility, adaptability and creativity in children. The rating categories were: (1) expression of warmth toward the children, (2) perceptiveness of the children's wishes and needs, (3) flexibility in meeting the needs and interest of the children, (4) ability to maintain relaxed relationships with the children, (5) attention to the individual child, (6) task involvement, (7) enjoyment of teaching, (8) enlistment of child participation, (9) encouragement of individual responsibility, (10) encouragement of free expression of feelings, (11) encouragement of creativity, (12) teaching new concepts, (13) ingenuity in improvising teaching and play materials, (14) utilization of physical resources, (15) task effectiveness, (16) diversity of activities simultaneously permitted, (17) smoothness of classroom operation (especially in the transition from one activity to another), (18) consistency of rule enforcement, (19) use of functional explanation of rules, (20) use of unexplained rules, (21) rule orientation, (22) determination of classroom and playground procedure, (23) need for structure in teaching activities and relationships with children, (24) punitiveness, and (25) anxiety induced by observers presence. (34)

Teachers representing System 4 differed from representatives of System 1 in what was presumed to be the direction favoring adaptability and flexibility on all dimensions. In addition, the total dimensions were factor analyzed and three major factors extracted: teacher resourcefulness, dictatorialness and punitiveness. System 4 teachers were resourceful, less dictatorial and less punitive than System 1 teachers. (34)

After having demonstrated in the preceding study that concreteness-abstractness of teachers' belief systems influence the kind of classroom environments they create, a study was carried out to assess the influence of teachers' beliefs and behavior upon the performance of their students. In the second study, concrete and abstract teachers of kindergarteners and first-graders were again rated by a trained observer on the same rating scale as above. In addition, the students were rated on the following 30 performance dimensions: (1) overall adherence to the teacher's rules, (2) immediacy of response to the rules, (3) adherence to the spirit (vs. the letter) of the rules, (4) information seeking, (5) independence, (6) cooperativeness with the teacher, (7) task attentiveness, (8) enthusiasm, (9) voice in classroom activities, (10) voluntary participation in classroom activities, (11) free expression of feelings, (12) diversity of goal relevant activities, (13) student-initiated activity, (14) amount of activity, (15) considerateness toward classmates, (16) reciprocal affection between classmates, (17) cooperation with classmates, (18) taking turns with classmates, (19) amount of interaction with classmates, (20) novelty of response to problem or teacher's question, (21) appropriateness of response, (22) accuracy of facts, (23) integration of facts, (24) orientation toward specificity of facts, (25) roteness of answers or solutions, (26) active hostility toward the teacher, (27) passive hostility toward the teacher, (28) aggression toward classmates, (29) guidance seeking, and (30) approval seeking. (33)

In addition to replicating the results of the first study, the second study also found students of concrete and abstract teachers to be differentially influenced in the ways anticipated. An analysis

of the 31-item student rating scale yielded seven factors, termed (1) cooperation, (2) student involvement, (3) activity level, (4) nurturance seeking, (5) achievement level, (6) helpfulness, and (7) concreteness of response. Students of more abstract teachers, in comparison to their counterparts, were more cooperative, more involved in classroom activities, more active, higher in achievement, more helpful, lower in nurturance seeking and less concrete in their responses. (33)

The theoretical framework of the Conceptual Systems Test is based upon the earlier work of Harvey and others. (27) Some of the most important theorizing and research has dealt with the postulation of four distinct belief systems and the identification of representatives in each. They are as follows:

System 1

1. A simpler cognitive structure in regard to domains of high involvement.
2. A greater tendency toward more extreme, either-or and good-bad judgements.
3. A greater reliance upon status and power than upon information and expertise as guidelines to beliefs and judgments.
4. A greater intolerance of ambiguity and uncertainty, expressed in higher scores on measures of authoritarianism and dogmatism and in the tendency to form judgments quickly of novel stimuli.
5. A greater need for cognitive consistency together with a greater tendency toward negative arousal from the experience of inconsistency.
6. A greater inability to change set and hence greater rigidity

in the solution of complex and/or changing problems.

7. A greater insensitivity to subtle cues in the environment and hence a greater susceptibility to obtrusive clues even when they provide false leads.

8. A poorer capacity to "act as if," to assume the role of the other or to think and act in terms of a make-believe or hypothetical situation.

9. A holding of opinions with greater strength and certainty which are difficult to change.

10. A higher score on the factor of dictatorialness as reflected in such behavior as high need for structure, low flexibility, high rule orientation, high dictation of procedure, high frequency of the use of unexplained rules, and low encouragement of individual responsibility and originality.

11. A greater tendency toward trite and normative behavior and a lower tendency toward innovation and creativity.

12. A greater tendency to form and generalize impressions of other people from highly incomplete information.

System 2

This system, only somewhat more differentiated and integrated than System 1, differs in its representatives tending to distrust, reject and weigh negatively many of the cues, especially those relating to established custom and authority, which are used as positive guidelines and signs of validity by persons of System 1.

System 3

Representatives of this system are more abstract, less dogmatic, less pro- or anti-establishment, and less evaluative than individuals from either System 1 or System 2. At the same time, they are more concerned with interpersonal harmony, empathic understanding, mutual dependencies and highly developed skills of interpersonal manipulation aimed at averting social isolation, aloneness, interpersonal rejection, and failure when having to perform alone.

System 4

This is the most abstract of the four systems. It is characterized by high task orientation, information seeking, low dogmatism, creativity (offering solutions to problems that are high in both novelty and appropriateness), openness to inputs from diverse sources, and a high independence of judgment.

CHAPTER III

RESEARCH METHODOLOGY AND PROCEDURES

Design of the Study

The design for the study was the Posttest-Only Control Group Design, which is classified as a "true experimental design" by Campbell and Stanley. (7) This design has provisions for randomization in the selection of subjects and provides for control of the possible sources of internal invalidity. Additionally, Interaction of Testing and Treatment, a source of external invalidity, is also brought under control with this design.

The remaining sources of external invalidity which require attention when using this design are: (1) Interaction of Selection and Treatment, and (2) Reactive Arrangements. The first, Interaction of Selection and Treatment, became very difficult to bring under experimental control. Discarding the idea of administrative coercion in the involvement of both teachers and students, the researcher took an alternate route. This required the writing of a form letter (Appendix A) to all teachers, informing them of the future project and asking for their participation. To make the project more appealing and increase the dissimilarity of attitudinal stances among faculty members, one hour of in-service credit was offered by the administration to each participant. Students were also urged to participate by excusing them from their regular class and course requirements for that day.

The second threat to external validity, Reactive Arrangements, was given consideration by gaining teacher and administrative cooperation in forming the student groups. The students met in empty classrooms which seemed to reduce the possibility of reactions against environmental factors. Conceivable reactions from teachers were also considered and reduced to a minimum by presenting the research project as teacher in-service training, utilizing the researcher as experimenter because of his acquaintance with most of the teaching staff, and meeting in a faculty lounge on the school campus.

Instrumentation

An instrument which could identify and classify respondents relative to their beliefs, differentiate dissimilarities in beliefs by using numerical values, effectively note fine changes in a person's beliefs, and be administered to high school students and teachers in a group setting was needed. All of these qualities were found in the Conceptual Systems Test which was constructed and validated by O. J. Harvey.

From the writings of Harvey, Hunt, and Schroder (30), plus a series of subsequent research studies, two instruments for measuring concreteness-abstractness have been developed. The terms refer to a presumably more or less standardized way an individual organizes and articulates the concepts of the relevant aspects of his environment.

The This I Believe test is a subjective measure of one's placement on the concreteness-abstractness continuum. Stimulus items are provided for the respondents. Each begins: "This I believe about____," with the referents being "religion," "education," "marriage,"

"friendship, " "the American way of life," "sin," "the family," "compromise," "capital punishment," and "world government." Two or three sentences are requested for each item with an item time limit of two minutes. A guide and sample responses are provided for scoring.

The Conceptual Systems Test was later developed, using statements made by the subjects on the This I Believe test. An objective instrument was the result. Subjects respond by marking the items with one of the numbers, 1 through 5 which corresponds to the following answers: I agree completely, I agree mostly, I agree and disagree about equally, I disagree mostly, and I disagree completely. Using Tyron's method of cluster analysis, six highly consistent clusters have been identified. They are: Divine Fate Control, Need for Structure and Order, Need to Help People, Need for People, Interpersonal Aggression, and General Distrust. A scoring key with cutoff levels for concrete-abstract classifications is provided. A duplicate of these instruments is included in Appendices B, C, and D.

The Sample

The population for this study was selected from the instructional staff and Family Relations classes (seniors) in an Oklahoma school system of medium size. Faculty members received a letter (Appendix A) requesting their participation in the group sessions. Students were introduced to the project by their regular teacher after prior briefing with the researcher and urged to participate in the student discussion groups. From a total number of 38 teacher respondents, 30 were randomly assigned to the two experimental groups and one control group, comprised of ten members each. The students were divided because of randomization

difficulties into two populations: morning and afternoon. The number of student volunteers were 27 and 25 in the morning and afternoon sections, respectively. The morning experimental group consisted of 14 students with 13 in the control group. The afternoon experimental group contained 11 students with 14 in the control group. All subjects (teachers and students) were assigned to the particular groups by randomization procedures, utilizing a table of random numbers.

Group Treatment

The treatment for all of the experimental groups was basically the same on the following points.

1. The subjects were seated in a circular seating arrangement facing each other.
2. Initial general remarks were made during the first meeting. The discussion leader began the session with: "I'm delighted to have you attend the first group session. Topics will be presented for discussion which, hopefully, will elicit an expression from you, reflecting your values relative to the topic under consideration. As you interact with other members of the group, attempt to understand what they are saying, verbally, emotionally, and with gestures. You are encouraged to state your heartfelt opinions regarding each topic, even though they may differ from another member's. If there is an opinion expressed which is different from your own, try to understand why the other person believes as he does."
3. The discussion leader made every attempt to understand what each member was saying. Statements such as: "Let me see if I understand what you said, _____," "_____, this is what I hear you

saying," and "Does everyone know what _____ has just said?" were used.

4. Subjects were given the opportunity to role play during the sessions. As they played the role of another person, new insights were apparent, judging from their expressions afterward.

5. The differences between the groups in regard to treatment were: (a) Both teacher experimental groups were required to read the book, Expanding the Self: Personal Growth for Teachers, by Boy and Pine, whereas the students were required to do nothing outside of the group sessions. (b) Two hours of listening to tapes outside of the groups were required of each participant in the two experimental teacher groups. Group 1 members were required to listen to recorded tapes from their group sessions, whereas Group 2 members were required to tape their class sessions and play the recordings back for listening. (c) The teachers' Experimental Group 1 and students' Experimental Groups 4 and 6 were introduced to the discussion topic at the beginning of each session, whereas teachers' Experimental Group 2 was given a verbal summary of the students' remarks in previous sessions.

6. Topics for discussion in Experimental Group 1 were: (1) Capital punishment, (2) World government-control, (3) Compliments and criticisms, (4) Rules and punishment, (5) Religion, (6) Identity, (7) Trust, and (8) Topic Summary.

7. Topics for discussion in Experimental Group 2 were: (1) Capital punishment, (2) World government-control, (3) Rules and punishment, (4) Compliments and criticisms, (5) Religion, (6) Identity, (7) Trust, and (8) Topic summary.

8. Discussion topics for Experimental Group 4 were: (1) Capital punishment, (2) World government-control, (3) Rules and punishment, (4) Compliments and criticisms, and (5) Religion.

9. Discussion topics for Experimental Group 6 were: (1) Capital punishment, (2) World government-control, (3) Rules and punishment, (4) Compliments and criticisms, and (5) Religion.

Rationale for Treatment

Group Discussion

Group discussion was used in all of the experimental groups. It was a component of the treatment in the teacher groups and became the total treatment in the student groups. Its potential effectiveness in producing attitude change is supported by several studies. (48, 43, 2, 22, 41) Group discussion appeared to be especially applicable to the present investigation because of its administrative acceptance and applicability in the school program. It further provides a medium whereby informational input can be accomplished. Group discussion also permits one to express his feelings toward certain attitudinal topics, followed by other group members' comments on the same topic. This interactional process is intended to function as a mirror, providing feedback for group participants. Listening, thinking, feeling, and expressing, therefore are very important elements in group discussions. Recognizing the cogency of such processes, encouragement by the leader for group member involvement was constant. The affective and cognitive processes in these activities are characteristics of abstract functioning individuals. The promotion of such activities within a group setting will, hopefully, influence the concrete functioning individual

toward abstractness.

Topics

These attitudinal topics were selected because of their potential stimulus value in the promotion of group discussion at the affective level. They are assumed to possess sufficient intensity to elicit expressions from group members which reflect their values and beliefs related to the topic being discussed.

Readings

The book, Expanding the Self: Personal Growth for Teachers, by Boy and Pine was selected for the two teacher experimental groups to (1) meet school board in-service credit requirements and (2) complement the group discussions with an additional activity.

Tapes

The third component of the treatment for teachers in Experimental Groups 1 and 2 was the use of prerecorded tapes. Even though two hours of listening time were required of subjects in both groups, the purposes for usage and recording environments differed. Experimental Group 1 members listened privately to prerecorded tapes of their in-service training sessions; the purpose being to bolster the achieving of the specific aims delineated under "Group Discussion" above. Experimental Group 2 members recorded their classes in session for private playback. The purpose was to provide additional feedback for the teacher relative to her proficiency as she functions in the capacity of teacher. She was encouraged by the experimenter to be especially

attentive to the recordings of her attempts to express herself and respond to the expressions of her students.

Summaries of Student Discussions

Summaries of student discussions were presented as initial stimuli for Experimental Group 2. The plan was for the experimenter to reflect the comments of students (during previous student sessions) on the particular topics being introduced for teacher discussion. The purpose was to support the objectives listed under "Group Discussion" and "Tapes," but with emphasis upon teacher and student interaction.

Role Playing

Role playing opportunities were available (which actually became a minor part of the treatment) to the participants, intending to serve as a further means to inter-individual understanding. An indication of its relevancy to the present goals is found in Harvey's (27) research which shows that a lack in role playing ability is a characteristic of the concrete functioning person. Therefore, such activities were included in the treatment with the purpose of fostering movement away from concreteness toward abstractness.

Subjective and Informal Objective Data

As an adjunct to the formal design and methodology, data in the form of weekly discussion summaries and informal group questionnaires were collected. The written summaries were intended to provide process data relative to the overall objective of influencing belief systems. The informal paper and pencil questionnaire permitted the teachers and

students to state their positions toward the items with one of five digits: 1 - I disagree completely, 2 - I disagree mostly, 3 - I agree and disagree about equally, 4 - I agree mostly, and 5 - I agree completely. The purpose of this exercise was to compare the respondents' scores with the conceptual systems classifications data in Appendix H and the formal research data analysis in Chapter IV.

Data Collection

During the week of the last session, all members of both experimental and control groups were administered, the Conceptual Systems Test, a copy of which is found in Appendix B. Also during this week, all experimental groups were asked to respond to a group questionnaire. The teachers' questionnaire has been placed in Appendix F with the students' in Appendix G. Teachers' and students' formal and informal data, which had been kept separated by groups during administration and collection were prepared for final analysis.

Statistical Analysis of the Data

The total item and factor mean scores were computed for each experimental and control group respondent on the Conceptual Systems Test. Next, the group means and standard deviations were computed for all of the groups. Following this, the one-way analysis of variance technique was used in analyzing the data from all experimental and control groups. Finally, the F test was calculated to determine if the groups were significantly different relative to the stated hypotheses.

Summary

The design of this study was the Posttest-Only Control Group Design. Advantages for using this design were given with comments on its appropriateness for the present study. Attempts were made to rationalize research maneuvers which were intended to bolster external validity. A discussion of the instrument followed. The samples which were taken from the faculty and Family Relations' classes were described. Ramifications and rationale of the group treatment were presented, with elaboration on the collection and analysis of the data concluding the chapter. Chapter IV will contain the presentation and analysis of the data.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

Introduction

The purpose of this chapter is to present an analysis of the data as they relate to each of the hypotheses. An analysis of total Conceptual Systems Test scores for each group will be presented first, with an analysis of factor scores following. This chapter also includes the reporting of informal data in the form of relevant material from the discussion summaries, results of an objective questionnaire, and comments on conceptual systems classifications.

Analysis of the Data Relating to the Hypotheses

The total mean scores and standard deviations are given first. A set of hypotheses with a more intensive analysis of instrument factor comparisons follows.

Mean scores were derived from the Conceptual Systems Test item values denoted by a numeral from 1 through 5. Subjects were requested to select from the possible choices, the number which most adequately represented their position toward the item. The available choices for each item were: 1 - I agree completely, 2 - I agree mostly, 3 - I agree and disagree about equally, 4 - I disagree mostly, and 5 - I disagree completely. Positive significant differences between experimental

group mean scores and their controls indicate movement toward abstractness while significant differences in the opposite direction denote movement toward concreteness.

Hypothesis One

Hypothesis One: There will be no significant differences in belief systems scores between Experimental Group 1 (Teachers) and Control Group 3 (Teachers) due to the treatment.

Hypothesis Two

Hypothesis Two: There will be no significant differences in belief systems scores between Experimental Group 2 (Teachers) and Control Group 3 (Teachers) due to the treatment.

The mean scores and standard deviations of the three groups are graphically presented in Table I. Table II exhibits the calculations in the analysis of variance between groups and within groups. The computed F reveals that the treatments administered in Experimental Group 1 and Experimental Group 2 had no significant effects (.05 level of significance) when compared with Control Group 3.

A more comprehensive analysis of variance was conducted, engaging the six factors of the Conceptual Systems Test for comparisons. These factors are: (1) Divine Fate Control, (2) Need for Structure-Order, (3) Need to Help People, (4) Need for People, (5) Interpersonal Aggression, and (6) Anomie.

The treatments in the two experimental groups did not significantly affect the participants' scores on any of the aforementioned CST factors. Tables III through XIV present the data from the three teacher groups.

TABLE I
TEACHERS' TOTAL CST MEANS
AND STANDARD
DEVIATIONS

Group	Sample Size	Means	Standard Deviations
Experimental Group 1	10	2.67	.2646
Experimental Group 2	10	2.80	.3224
Control Group 3	10	2.61	.2950

TABLE II
ANALYSIS OF VARIANCE: TOTAL CST SCORES
OF EXPERIMENTAL GROUPS 1 AND 2
COMPARED WITH TOTAL CST
SCORES OF CONTROL
GROUP 3

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	2.80	29			
Between Groups	.19	2	.0950	.982	N.S.
Within Groups	2.61	27	.0967		

Critical F (.05) = 3.35

TABLE III
DIVINE FATE CONTROL MEAN SCORES OF TEACHER
EXPERIMENTAL GROUPS 1 AND 2, AND
TEACHER CONTROL GROUP 3

Group	Sample Size	Means	Standard Deviations
Experimental Group 1	10	2.12	.8526
Experimental Group 2	10	1.98	.4438
Control Group 3	10	2.10	.9327

TABLE IV
ANALYSIS OF VARIANCE: DIVINE FATE CONTROL
SCORES OF TEACHER GROUPS 1, 2, AND 3

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	18.07	29			
Between Groups	.11	2	.0550	.0178	N.S.
Within Groups	17.96	27	.6652		

Critical F (.05) = 3.35

TABLE V
NEED FOR STRUCTURE-ORDER MEAN SCORES OF
TEACHERS' EXPERIMENTAL GROUPS 1 &
2, AND TEACHER CONTROL GROUP 3

Group	Sample Size	Means	Standard Deviations
Experimental Group 1	10	2.01	.4806
Experimental Group 2	10	2.33	.7483
Control Group 3	10	2.16	.5235

TABLE VI
ANALYSIS OF VARIANCE: NEED FOR STRUCTURE-ORDER
SCORES OF TEACHER GROUPS 1, 2, AND 3

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	11.18	29			
Between Groups	.52	2	.2600		
Within Groups	10.66	27	.3948	.6586	N.S.

Critical F (.05) = 3.35

TABLE VII
NEED TO HELP PEOPLE MEAN SCORES OF
TEACHER GROUPS 1, 2, AND 3

Group	Sample Size	Means	Standard Deviations
Experimental Group 1	10	1.79	.4528
Experimental Group 2	10	2.02	.4254
Control Group 3	10	1.82	.6481

TABLE VIII
ANALYSIS OF VARIANCE: NEED TO HELP PEOPLE
SCORES OF TEACHER GROUPS 1, 2, AND 3

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	8.36	29			
Between Groups	.31	2	.1550	.5199	N.S.
Within Groups	8.05	27	.2981		

Critical F (.05) = 3.35

TABLE IX
NEED FOR PEOPLE MEAN SCORES OF
TEACHER GROUPS 1, 2, AND 3

Group	Sample Size	Means	Standard Deviations
Experimental Group 1	10	2.86	.6992
Experimental Group 2	10	2.45	.5805
Control Group 3	10	2.13	.6950

TABLE X
ANALYSIS OF VARIANCE: NEED FOR PEOPLE
SCORES OF TEACHER GROUPS 1, 2, AND 3

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	15.84	29			
Between Groups	2.75	2	1.3750	2.836	N.S.
Within Groups	13.09	27	.4848		

Critical F (.05) = 3.35

TABLE XI
INTERPERSONAL AGGRESSION MEAN SCORES
OF TEACHER GROUPS 1, 2, AND 3

Group	Sample Size	Means	Standard Deviations
Experimental Group 1	10	4.05	.7362
Experimental Group 2	10	4.30	.2683
Control Group 3	10	4.03	.5736

TABLE XII
ANALYSIS OF VARIANCE: INTERPERSONAL AGGRESSION
SCORES OF TEACHER GROUPS 1, 2, AND 3

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	9.93	29			
Between Groups	.47	2	.2365	.6749	N.S.
Within Groups	9.46	27	.3504		

Critical F (.05) = 3.35

TABLE XIII
ANOMIE MEAN SCORES OF TEACHER
GROUPS 1, 2, AND 3

Group	Sample Size	Means	Standard Deviations
Experimental Group 1	10	3.20	.6804
Experimental Group 2	10	3.72	.6663
Control Group 3	10	3.41	.4754

TABLE XIV
ANALYSIS OF VARIANCE: ANOMIE SCORES
OF TEACHER GROUPS 1, 2, AND 3

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	12.69	29			
Between Groups	1.36	2	.6800	1.620	N.S.
Within Groups	11.33	27	.4196		

Critical F (.05) = 3.35

Hypothesis Three

Hypothesis Three: There will be no significant differences in belief systems' scores between Experimental Group 4 (Students) and Control Group 5 (Students) due to the treatment.

The total CST statistics for student groups 4 and 5 are presented in Tables XV and XVI. As is indicated in the comparing of the calculated F with its critical value, treatment was not effective in changing students' beliefs.

The six Conceptual Systems Test factors were singled out for statistical analysis with the data on each in Tables XVII through XXVIII. Treatment was ineffectual in producing significant differences in CST factor scores. This conclusion is arrived at on the basis of comparing the calculated F with its critical value which is given in each table.

TABLE XV
TOTAL CST MEANS AND STANDARD DEVIATIONS
FOR STUDENT GROUPS 4 AND 5

Groups	Sample Size	Means	Standard Deviations
Experimental Group 4	14	2.66	.2379
Control Group 5	13	2.57	.2843

TABLE XVI

ANALYSIS OF VARIANCE: TOTAL CST SCORES OF
EXPERIMENTAL GROUP 4 COMPARED WITH CST
SCORES OF CONTROL GROUP 5

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	1.90	26			
Between Groups	.06	1	.060	.8152	N.S.
Within Groups	1.84	25	.0736		

Critical F (.05) = 4.24

TABLE XVII

DIVINE FATE CONTROL MEANS AND STANDARD
DEVIATIONS FOR EXPERIMENTAL GROUP
4 AND CONTROL GROUP 5

Group	Sample Size	Means	Standard Deviations
Experimental Group 4	14	2.40	.6075
Control Group 5	13	2.29	1.043

TABLE XVIII
ANALYSIS OF VARIANCE: DIVINE FATE CONTROL
SCORES OF EXPERIMENTAL GROUP
4 AND CONTROL GROUP 5

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	19.39	26			
Between Groups	.08	1	.080	.1035	N.S.
Within Groups	19.31	25	.7724		

Critical F (.05) = 4.24

TABLE XIX
NEED FOR STRUCTURE-ORDER MEANS AND STANDARD
DEVIATIONS FOR EXPERIMENTAL GROUP
4 AND CONTROL GROUP 5

Group	Sample Size	Means	Standard Deviations
Experimental Group 4	14	2.61	.6843
Control Group 5	13	2.26	.6626

TABLE XX
ANALYSIS OF VARIANCE: NEED FOR STRUCTURE-ORDER
SCORES OF EXPERIMENTAL GROUP 4
AND CONTROL GROUP 5

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	13.11	26			
Between Groups	.84	1	.84	1.7142	N.S.
Within Groups	12.27	25	.4908		

Critical F (.05) = 4.24

TABLE XXI
NEED TO HELP PEOPLE MEANS AND STANDARD
DEVIATIONS FOR EXPERIMENTAL GROUP
4 AND CONTROL GROUP 5

Group	Sample Size	Means	Standard Deviations
Experimental Group 4	14	2.32	.4429
Control Group 5	13	2.25	.4939

TABLE XXII

ANALYSIS OF VARIANCE: NEED TO HELP PEOPLE
SCORES OF EXPERIMENTAL GROUP 4 AND
CONTROL GROUP 5

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	5.97	26			
Between Groups	.03	1	.03	.1262	N.S.
Within Groups	5.94	25	.2376		

Critical F (.05) = 4.24

TABLE XXIII

NEED FOR PEOPLE MEANS AND STANDARD DEVIATIONS
FOR EXPERIMENTAL GROUP 4 AND
CONTROL GROUP 5

Group	Sample Size	Means	Standard Deviations
Experimental Group 4	14	2.55	.5631
Control Group 5	13	2.53	.5137

TABLE XXIV
ANALYSIS OF VARIANCE: NEED FOR PEOPLE SCORES
OF EXPERIMENTAL GROUP 4 AND
CONTROL GROUP 5

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	7.87	26			
Between Groups	.01	1	.01		
Within Groups	7.86	25	.3144	.0318	N.S.

Critical F (.05) = 4.24

TABLE XXV
INTERPERSONAL AGGRESSION MEANS AND STANDARD
DEVIATIONS FOR EXPERIMENTAL GROUP 4
AND CONTROL GROUP 5

Group	Sample Size	Means	Standard Deviations
Experimental Group 4	14	3.20	.6881
Control Group 5	13	3.33	.5830

TABLE XXVI
ANALYSIS OF VARIANCE: INTERPERSONAL AGGRESSION
SCORES OF EXPERIMENTAL GROUP 4
AND CONTROL GROUP 5

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	11.16	26			
Between Groups	.12	1	.120		
Within Groups	11.04	25	.4416	.2717	N.S.

Critical F (.05) = 4.24

TABLE XXVII
ANOMIE MEANS AND STANDARD DEVIATIONS FOR
EXPERIMENTAL GROUP 4 AND
CONTROL GROUP 5

Group	Sample Size	Means	Standard Deviations
Experimental Group 4	14	2.90	.4606
Control Group 5	13	2.74	.4795

TABLE XXVIII
ANALYSIS OF VARIANCE: ANOMIE SCORES OF
EXPERIMENTAL GROUP 4 AND
CONTROL GROUP 5

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	6.14	26			
Between Groups	.16	1	.160		
Within Groups	5.98	25	.2392	.6688	N.S.

Critical F (.05) = 4.24

Hypothesis Four

Hypothesis Four: There will be no significant differences in belief systems' scores between Experimental Group 6 (Students) and Control Group 7 (Students) due to the treatment.

The data were treated statistically in the same manner as they were in the preceding tables associated with Experimental Group 4 and Control Group 5. The group treatment in Experimental Group 6 yielded no significant differences in total CST scores as is evidenced in the tables below.

TABLE XXIX
TOTAL CST MEANS AND STANDARD DEVIATIONS FOR
STUDENT GROUPS 6 AND 7

Groups	Sample Size	Means	Standard Deviations
Experimental Group 6	11	2.61	1.022
Control Group 7	14	2.50	.9022

TABLE XXX
ANALYSIS OF VARIANCE: TOTAL CST SCORES
OF EXPERIMENTAL GROUP 6 COMPARED
WITH CST SCORES OF
CONTROL GROUP 7

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	2.36	24			
Between Groups	.07	1	.070		
Within Groups	2.29	23	.0995	.7035	N.S.

Critical F (.05) = 4.28

The six Conceptual Systems Test scores from Experimental Group 6 and Control Group 7 were examined for significant differences. Tables XXXI through XLII summarize the data for each factor. The treatment in Experimental Group 6 did not produce significant differences in CST factor scores when comparing the calculated F with its respective critical value.

TABLE XXXI
DIVINE FATE CONTROL MEANS AND STANDARD
DEVIATIONS FOR EXPERIMENTAL GROUP
6 AND CONTROL GROUP 7

Group	Sample Size	Means	Standard Deviations
Experimental Group 6	11	2.70	.8678
Control Group 7	14	2.18	.2769

TABLE XXXII
ANALYSIS OF VARIANCE: DIVINE FATE CONTROL
SCORES OF EXPERIMENTAL GROUP
6 AND CONTROL GROUP 7

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	10.96	24			
Between Groups	1.60	1	1.60	3.930	N.S.
Within Groups	9.36	23	.4069		

Critical F (.05) = 4.28

TABLE XXXIII
NEED FOR STRUCTURE-ORDER MEANS AND STANDARD
DEVIATIONS FOR EXPERIMENTAL GROUP
6 AND CONTROL GROUP 7

Group	Sample Size	Means	Standard Deviations
Experimental Group 6	11	2.69	.7050
Control Group 7	14	2.34	.6598

TABLE XXXIV

ANALYSIS OF VARIANCE: NEED FOR STRUCTURE-ORDER
 SCORES OF EXPERIMENTAL GROUP 6
 AND CONTROL GROUP 7

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	12.34	24			
Between Groups	.77	1	.770	1.530	N.S.
Within Groups	11.57	23	.503		

TABLE XXXV

NEED TO HELP PEOPLE MEANS AND STANDARD
 DEVIATIONS FOR EXPERIMENTAL GROUP
 6 AND CONTROL GROUP 7

Group	Sample Size	Means	Standard Deviations
Experimental Group 6	11	2.20	.5488
Control Group 7	14	2.15	.6482

TABLE XXXVI

ANALYSIS OF VARIANCE: NEED TO HELP PEOPLE
SCORES OF EXPERIMENTAL GROUP 6 AND
CONTROL GROUP 7

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	9.21	24			
Between Groups	.01	1	.01	.250	N.S.
Within Groups	9.20	23	.40		

Critical F (.05) = 4.28

TABLE XXXVII

NEED FOR PEOPLE MEANS AND STANDARD DEVIATIONS
FOR EXPERIMENTAL GROUP 6 AND
CONTROL GROUP 7

Source	Sample Size	Means	Standard Deviations
Experimental Group 6	11	2.24	.3873
Control Group 7	14	2.37	.3768

TABLE XXXVIII
ANALYSIS OF VARIANCE: NEED FOR PEOPLE SCORES
OF EXPERIMENTAL GROUP 6 AND
CONTROL GROUP 7

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	3.82	24			
Between Groups	.10	1	.10		
Within Groups	3.72	23	.1617	.618	N.S.

Critical F (.05) = 4.28

TABLE XXXIX
INTERPERSONAL AGGRESSION MEANS AND STANDARD
DEVIATIONS FOR EXPERIMENTAL GROUP 6
AND CONTROL GROUP 7

Group	Sample Size	Means	Standard Deviations
Experimental Group 6	11	3.34	.9897
Control Group 7	14	3.41	.6707

TABLE XL

ANALYSIS OF VARIANCE: INTERPERSONAL AGGRESSION
 SCORES OF EXPERIMENTAL GROUP 6
 AND CONTROL GROUP 7

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	17.10	24			
Between Groups	.02	1	.020		
Within Groups	17.08	23	.7426	.0269	N.S.

Critical F (.05) = 4.28

TABLE XLI

ANOMIE MEANS AND STANDARD DEVIATIONS FOR
 EXPERIMENTAL GROUP 6 AND
 CONTROL GROUP 7

Group	Sample Size	Means	Standard Deviations
Experimental Group 6	11	2.45	.6557
Control Group 7	14	2.54	.5542

TABLE XLII
ANALYSIS OF VARIANCE: ANOMIE SCORES OF
EXPERIMENTAL GROUP 6 AND
CONTROL GROUP 7

Source	S.S.	d.f.	M.S.	F	Level of Significance
Total	9.08	24			
Between Groups	.04	1	.040	.1017	N.S.
Within Groups	9.04	23	.3930		

Critical F (.05) = 4.28

Subjective Data

The researcher lifted from the compilation of subjective data that material which appeared relevant to the purpose of this project. Consequently, data which indicated (1) a reconsideration of ones beliefs, (2) a need for teacher-student communication, and/or (3) a promising approach in attitude change were reported.

Item 20 of the Student Questionnaire (Appendix F) was also treated as subjective data. Its pertinence lies in the strivings for the attainment of functioning which is characteristic of that ascribed to abstract functioning. These strivings are depicted as unfulfilled needs deserving further attention in educational research.

Evidence of Reconsideration of Beliefs

Several comments from both teachers and students indicated a

reconsideration of their belief tendencies in regard to many topics.

Statements such as:

"I saw myself get angry at someone right after leaving the session last week, and had said previously that it did not happen to me."

"I thought I knew what I believed, but now I'm not sure."

"What I believe is right is not always practical."

are given as examples of movement toward abstractness as a resultant of the treatment.

Lack in Teacher-Student Understanding

Students' comments relative to a lack in teacher understanding were:

"Why can't we let our hair grow long? Can anyone explain the harm?"

"If we are to be governed, then we should be permitted to help form the rules."

"Students are able to function independently of so much adult guidance."

Why this rule, why that rule, who knows?"

The teachers' comments were:

"Why don't students participate more in class with the subject matter? They talk in the halls afterward."

"Teachers must force some things upon students whether they like them or not."

"The students wanted the more humorous literature (from a high school questionnaire) instead of the adult selections."

"Yes, I would pass my values on to another person without deviation if I had the power to do so."

"Why are students so different in their values from adults?"

The students' statements were an integral part of the treatment component (student discussion summaries) used in Teacher Experimental Group 2. The teachers' comments were gleaned from both teacher groups, some denoting direct reactions to students' comments, others related. The statements are interpreted as indicators of students' and teachers' awareness in belief systems' discrepancies, which is a preliminary step toward abstractness.

Role Playing

It appeared to be difficult for members in both teachers' and students' groups to engage in role playing activities. When they did, typical comments were: "That's weird" and "My, I feel terrible."

The purpose of this part of the treatment was to encourage participants to identify with other roles. The comments are interpreted to mean that the treatment was successful in producing movement toward abstractness among some of the group members.

Student Questionnaire, Item 20

The Student Questionnaire (an objective test except for item 20) was administered to all students in the two experimental groups. Items 1 through 19 are treated as informal test data in a following section of this chapter. Item 20 is a sentence completion stimulus item. Sample responses to this item are found in Appendix G. Students' responses to it are listed under three categories of influences which are related to the present investigation. The responses can be summarized by stating that students would enjoy life more if they could gain more independence from adult influences and have the perceived

social and psychological needs fulfilled.

The perceived unfulfilled needs for independence, social stability, and psychological autonomy are seen by the researcher as hindrances to the attaining of abstractness. While treatment did not appear to be sufficient in producing the desired movement toward abstractness, the nature and intensity of the expressions are interpreted as indicators of strivings toward this goal.

Informal Test Data

The data from the informal Teacher Questionnaire are presented in Table XLIII below. Consistent directional differences between group scores (except item 2 which was expected to be in this direction) can be observed on all items. Since some of the items reflect project objectives, the researcher suggests that the differences in the treatments' effects may be noted in the discrepancies between these item scores. Those supporting the probable effectiveness of the Group 2 approach are items 3 and 4: "I have given more thought to my own beliefs since attending these sessions" and "I have given more thought to the beliefs of others since attending these sessions." The magnitude of mean score differences is noted by the 4 plus ratings given to Group 2 as contrasted with the 3 plus ratings for Group 1.

Table XLIV contains the data from the informal Student Questionnaire administered to the student experimental groups. Because of identical treatment, extreme differences between the two groups were not expected. Some of the test items were constructed to aid in an informal evaluation of the treatment's effectiveness. An arbitrary decision was made to consider mean scores above 3.99 and below 2.00 as possible indicators of

effectiveness. Those relevant items ranking within this range are:

Item 10: Since these group discussions, I have given more thought to my own beliefs.

Item 11: Since these group discussions, I have given more thought to the beliefs of others.

Other items indicating a strong interest in student group discussion activities are:

Item 4: The group topics should be discussed among high school groups.

Item 7: I would like to find out more about the thoughts and feelings of other group members.

Item 9: I think I would learn more if we had class discussions.

Item 12: My mind is pretty well made up about most things, so it doesn't help me to discuss with others.

Responses to these items suggest the appropriateness of group discussion for projects of this nature and its intrinsic value for involvement in learning environments with high school students.

TABLE XLIII
MEANS AND STANDARD DEVIATIONS
FOR TEACHER QUESTIONNAIRE

Items	Experimental Group 1		Experimental Group 2	
	Means	Standard Deviations	Means	Standard Deviations
1.	3.22	.833	4.33	.943
2.	2.11	1.763	1.22	.395
3.	3.22	1.090	4.44	.727
4.	3.44	1.014	4.33	.707
5.	3.00	.866	3.22	.834

TABLE XLIII (Continued)

6.	2.11	1.452	2.78	1.714
7.	1.89	1.268	3.00	1.650
8.	2.78	.972	3.11	1.268
9.	3.11	1.166	3.89	1.166
10.	3.44	1.334	3.89	.600

TABLE XLIV

MEANS AND STANDARD DEVIATIONS
FOR STUDENT QUESTIONNAIRE

Items	Experimental Group 4		Experimental Group 6	
	Means	Standard Deviations	Means	Standard Deviations
1.	3.94	.306	3.09	1.300
2.	1.06	.242	1.09	.301
3.	1.76	1.200	2.18	1.249
4.	4.65	.866	4.09	1.220
5.	3.12	1.655	2.55	1.571
6.	3.58	1.175	3.27	1.421
7.	4.12	.781	4.18	.751
8.	2.24	1.300	2.18	1.326
9.	4.77	.437	4.64	.675
10.	4.35	.862	3.73	1.349
11.	4.06	.898	3.73	1.349
12.	1.59	.870	2.00	1.673
13.	3.00	1.513	3.00	1.265
14.	2.53	1.015	2.82	.310
15.	3.94	1.435	3.55	1.380
16.	3.53	1.375	3.45	1.438
17.	2.76	1.562	2.09	1.445
18.	2.24	1.523	2.09	1.445
19.	2.06	1.145	1.91	.831

Conceptual Systems Classifications

The motivating force behind teachers volunteering for the groups was of concern to the researcher. A partial explanation, he felt could be given by considering the conceptual systems classifications of the volunteers.

Characteristics of representatives from each of the four conceptual systems proposed by Harvey (27) are based upon a considerable amount of research. The first system is characterized by expressions of high absolutism, high tautologicalness, high frequency of platitudes and normative statements, high ethnocentrism, high religiosity, assertion of the superiority of American morality, and expression of highly positive attitudes toward institutional referents. The second system included respondents who in addition to being highly evaluative and absolutistic, expressed strong negative attitudes toward such referents as marriage, religion, and the American way of life. System 3 individuals are identified by their strong positive beliefs about friendship, people, and interpersonal relations. System 4 functioning, the highest of the four levels of abstractness, was indicated by expressions of novelty and appropriateness, independence without negativism, high relativism and contingency of thought, and the general usage of multidimensional rather than unidimensional interpretative categories.

First, all participants (students and teachers) were classified with the Conceptual Systems Test (Appendix B) and the Profile Analysis Cutting Points in Appendix D. The data are exhibited in Tables XLVI and XLVII, Appendix H. Secondly, because of the difference in characteristics among systems' representatives, it was surmised that the major portion of the volunteers classified as Systems 3 and 4 would

participate because of their interest in such activities while the greater percentage of System 1 representatives would need an additional incentive. This incentive was the offering of in-service credit to all participants. Table XLV gives the in-service credit needs of the teacher volunteers (information derived from the superintendent's office) and their conceptual systems classifications.

TABLE XLV
COMPARING TEACHER PARTICIPANTS RELATIVE
TO CONCEPTUAL SYSTEMS CLASSIFICATIONS
AND IN-SERVICE CREDIT NEEDS

	Conceptual Systems Classifications				Total
	1	2	3	4	
Teachers needing in-service credit	7			2	9
Teachers <u>not</u> needing in-service credit	3		6	12	21
Totals	10		6	14	30

Summary

The format of this chapter arranges the hypotheses in the original sequence with tables summarizing the data between. An analysis of total

Conceptual Systems Test scores for each experimental and control group was given first. After these data were presented, the factor scores were analyzed and presented in the same manner. The null hypothesis of no significance relative to the treatment was supported with all comparisons at the .05 level. After completing the formal analysis, subjective and informal test data were introduced to provide a more thorough investigation. Concluding the chapter was the presentation of possible motivating influences toward group participation.

CHAPTER V

SUMMARY OF RESULTS, IMPLICATIONS AND RECOMMENDATIONS

Introduction

This chapter will first present a summary of the problem under study. Implications from the findings, documented in Chapter IV will follow. Recommendations for further study will conclude the chapter.

Summary

The central purpose of this study was to investigate the influence of a teachers' in-service training program and student group counseling on teachers' and students' belief systems.

After securing permission from the school administration, a letter was written to all members of the instructional staff, informing them of the proposed in-service opportunity. Thirty-eight potential participants responded, indicating their desire to attend the sessions. Random assignments were made from the 38 faculty volunteers to form two experimental groups and one control group, comprised of ten members in each group.

The teacher of the Family Relations classes rendered her services by introducing the project to her classes and securing 52 volunteers from the four sections. Because of scheduling difficulties and the need

for randomization, the two morning classes were dealt with separately from the afternoon classes. The result was one experimental and one control in the morning with the same in the afternoon.

The treatment for Experimental Group 1 consisted of the discussion of affectively laden stimulus topics with encouragement intermittently given by the leader to be aware of other members' expressions. Further requirements were to read the book, Expanding the Self: Personal Growth for Teachers, by Boy and Pine, and listen to two hours of tapes which were recorded during their group sessions. Experimental Group 2 was given a different treatment. Summaries from the students' group sessions were introduced to the teachers for discussion at the beginning of each session. Encouragement from the leader was also given to intensify their efforts in understanding other members' expressions. The above requirement for the reading of the book was included, along with two hours of listening to tapes which were recorded in their classrooms. Treatment for the student groups (experimental) was essentially the same as Experimental Group 1 without the book and tapes. Teacher and student control groups received no treatment.

The teachers' groups were scheduled for eight one-hour meetings with the students' groups meeting for five 55 minute sessions. Each of the experimental groups and their controls was administered the Conceptual Systems Test upon completion of the treatment program.

The four hypotheses were tested utilizing an 1 X 3 and an 1 X 2 analysis of variance. Nondirectional tests at the .05 level of significance were used throughout the study. Individual findings of this study are summarized below:

Hypothesis One

Hypothesis One stated that there would be no significant differences in belief systems' scores between Experimental Group 1 (teachers) and Control Group 3 (teachers) due to the treatment. The hypothesis was supported.

Hypothesis Two

Hypothesis Two stated that there would be no significant differences in belief systems' scores between Experimental Group 2 (teachers) and Control Group 3 (teachers) due to the treatment. The hypothesis was supported.

Hypothesis Three

Hypothesis Three stated that there would be no significant differences in belief systems' scores between Group 4 (students) and Control Group 5 (students) due to the treatment. The hypothesis was supported.

Hypothesis Four

Hypothesis Four stated that there would be no significant differences in belief systems' scores between Experimental Group 6 (students) and Control Group 7 (students) due to the treatment. The hypothesis was supported.

Implications

To draw implications from this study, the researcher must limit any statements to the sample population and instrument used. To make

applications to other populations of teachers and senior students would be speculative. The following implications are made, keeping the above limitations in mind.

In this study the researcher requested responses from an instructional faculty of 230 with 38 volunteering. Students also were taken on a voluntary basis resulting in 52 out of a total enrollment of 103. The nonselective approach with volunteer participants did not reveal any significant differences in group members' belief systems as a result of the treatment. Because of the possibility of a higher percentage of "abstract" individuals among those who volunteered, compared with Harvey's (28) research, more studies using teachers lacking in the characteristics of abstractness are needed.

An indication of a person's beliefs being resistant to change is seen in the "no significant difference" ratings given to the hypotheses. The treatment did, however, succeed in gaining sufficient overt expressions from the group members which was a necessary prerequisite for treatment effectiveness. The creation of an atmosphere of openness, which also is a highly significant factor in abstract functioning, was observed in most of the sessions.

Role playing, a facet of the treatment, received many comments concerning the difficulty involved when one plays the role of another. These difficulties are interpreted to imply that one group member is trying to understand the functioning of another person with different beliefs. As one plays the role of another, he supposedly identifies with the thinking and feeling of that role which may be quite different from his own. The fostering of this relationship (a means to abstract functioning) while not sufficient enough to effect significant changes

in Conceptual Systems Test scores, appeared to be prevalent in all of the group sessions where role playing was used.

The voluntary expressions of students when informed that their comments would be relayed on to a group of teachers, are indicative of the facilitating group atmosphere, which was a necessary part of the treatment process. Teachers also responded with apparent interest to the students' comments. Even though a lack in understanding was observed in many of the teachers' and students' comments, they are seen as manifestations of concern for apparent discrepant beliefs, which the researcher views as being essential in the modification of belief systems.

Although there were no significant differences shown in belief systems' scores, an informal questionnaire (Appendix E) did suggest that the treatment used in teachers' Experimental Group 2 was partially effective in producing desired movement toward abstract functioning.

An informal questionnaire (Appendix F) was also administered to the students. The results imply that the treatment was probably influential in causing students not only to reflect upon their own beliefs, but compare them with the beliefs of others. Support for the appropriateness of treatment (discussions) was given, not only with attitudinal topics, but academic material as well.

Recommendations for Further Study

The recommendations for further study are made on the basis of test data, observations during the sessions, and the problems encountered during the procedural arrangements.

1. Although no significant differences appeared between the groups as a result of the treatment, it is recommended that the approach used in this study be tested more thoroughly by increasing the number of concrete functioning individuals in the study.

2. This study was concerned with the relationship of teachers' belief systems with those of their students. Further study of this relationship is essential by comparing relative effects of teachers' belief systems upon the attainment of educational goals such as: increasing independence of thought, problem solving strategies, social maturity, and improved attitudes toward authority.

3. Although no significant differences appeared due to the treatment, the involving effects of role playing seemed to merit further investigation for belief systems' change. It was observed that belief systems of individuals in the study were involved more during role playing than any other part of the treatment.

4. The students appeared eager to express their strong feelings in vital belief system areas when told that their comments would be relayed to a group of teachers. The teachers reciprocated with expressions of strong interest in the students' comments. Therefore, further study is recommended, combining students and teachers to interact about their incongruent belief systems in order to examine potential changes in beliefs.

5. Some of the findings of this study suggest that informal communication between teachers and students may have affected students' belief systems more than formal class instruction. A research design directed toward the investigation of this potential effect (formal vs. informal communication) on belief systems' change is recommended.

A SELECTED BIBLIOGRAPHY

- (1) Barlow, Ed. Small Group Ministry. Independence, Missouri: Herald Publishing Co., 1972.
- (2) Bettinghaus, E. P., and J. R. Baseheart. "Some Specific Factors Affecting Attitude Change." Journal of Communication, Vol. 19 (Summer, 1969), pp. 227-38.
- (3) Bloom, Benjamin S. Taxonomy of Educational Objectives. New York: Longmans, Green, 1956.
- (4) Boy, Angelo, and Gerald Pine. Expanding the Self: Personal Growth for Teachers. Dubuque, Iowa: Wm. C. Brown Publishers, 1971.
- (5) Brim, Burl. "Attitude Changes in Teacher Education Students." The Journal of Educational Research, Vol. 59 (July, 1966), pp. 441-45.
- (6) Bruning, James L., and B. L. Kintz. Computational Handbook of Statistics. Glenview, Illinois: Scott, Foresman and Co., 1968.
- (7) Campbell, Donald, and Julian Stanley. Experimental and Quasi-Experimental Design for Research. Chicago: Rand McNally and Company, 1963.
- (8) Carr, S. "How to Reduce Authoritarianism Among Teachers: The Human Development Approach." Journal of Educational Research, Vol. 63 (April, 1970), pp. 367-72.
- (9) "The Central Purpose of American Education." National Educational Association, Educational Policies Commission, Washington, 1966.
- (10) Coates, Carolie, O. J. Harvey, and B. J. White. "Teacher Beliefs, Classroom Atmosphere, and Student Performance: A Replication and Extension," (unpublished manuscript, 1969).
- (11) Davis, E. Dale. Focus on Secondard Education: An Introduction to Principles. Glenview, Illinois: Scott, Foresman and Co., 1966.

- (12) Deutsch, M. R. "Field Theory in Social Psychology." Handbook of Social Psychology. Cambridge, Massachusetts: Addison-Wesley Publishing Co., 1954, pp. 181-222.
- (13) Dinkmeyer, Don, and Mike Arciniega. "Affecting the Learning Climate Through C Groups with Teachers." The School Counselor, Vol. 19 (March, 1972), pp. 249-53.
- (14) Dutton, W. H. "Attitude Change of Elementary School Student Teachers and Anxiety." Journal of Educational Research, Vol. 55 (May, 1962) pp. 38-42.
- (15) Elsey, Freeman. Statistics. Belmont, California: Brooks-Cole Publishing Co., 1965.
- (16) Festinger, L. C., and E. Aronson. "The Arousal and Reduction of Dissonance in Social Contexts." Ed. David Cartwright, and A. Zander. Group Dynamics: Research and Theory. Evanston, Illinois: Row, Peterson, and Co., 1960.
- (17) Flanders, N. A. "Teacher-Pupil Contacts and Mental Hygiene." Journal of Social Issues, Vol. 15 (1959), p. 38.
- (18) Flanders, N. A. "Intent, Action and Feedback: A Preparation For Teaching." Journal of Teaching Education, Vol. 14 (1963), pp. 251-260.
- (19) Garfield, Jeffrey. "Effects of Group Counseling on Creativity." Journal of Educational Research, Vol. 64 (January, 1971), pp. 235-37.
- (20) Grabow, Alma, and O. J. Harvey. "Performance of Concrete and Abstract Subjects Under Different Levels of Anxiety." (unpublished manuscript, 1969).
- (21) Garso, B. L. "Influencibility as a Function of the Belief Systems of the Recipient and the Status of the Source of the Communication." (unpublished doctoral dissertation, University of Utah, 1969).
- (22) Greenwald, Anthony G. "Effects of Prior Commitment on Behavior Change After a Persuasive Communication." Public Opinion Quarterly, (1965), pp. 595-601.
- (23) Guilford, J. P. Fundamental Statistics in Psychology and Education. New York: Mc Graw-Hill Book Co., 1965.
- (24) Haiman, Franklyn S. "Effects of Training in Group Processes on Open-mindedness." Journal of Communication, Vol. 13 (December, 1963), pp. 236-45.
- (25) Hare, P. A. Handbook of Small Group Research. New York: The Free Press of Glencoe, 1962

- (26) Hayman, John L. Research in Education. Columbus, Ohio: Charles E. Merrill Publishing Co., 1968.
- (27) Harvey, O. J. "Belief Systems and Education: Some Implications for Change." Ed. Jack Crawford. The Affective Domain. Washington D. C: Communication Service Corporation, 1970.
- (28) Harvey, O. J. "Beliefs and Behavior: Some Implications for Education." The Science Teacher, Vol. 37 (December, 1970).
- (29) Harvey, O. J., J. Reich, and R. S. Wyer. Attitudinal Direction, Intensity and Personality as Determinants of Differentiation." Journal of Personality and Social Psychology, Vol. 10 (1968), pp. 472-478.
- (30) Harvey, O. J., D. E. Hunt, and H. M. Schroder. Conceptual Systems and Personality Organization. New York: Wiley, 1961.
- (31) Harvey, O. J., and G. D. Beverly. "Some Personality Correlates of Concept Change Through Role Playing." Journal of Abnormal and Social Psychology, Vol. 63 (1961), pp. 125-30.
- (32) Harvey, O. J. "Some Cognitive Determinants of Inflexibility." Sociometry, Vol. 27 (1964), pp. 207-221.
- (33) Harvey, O. J., Misha Prather, B. J. White, and J. K. Hoffmeister. "Teacher Beliefs, Classroom Atmosphere and Student Performance." American Educational Research Journal, Vol. 5 (1968), pp. 151-166.
- (34) Harvey, O. J., B. J. White, Misha Prather, R. Alter, and J. K. Hoffmeister. "Teachers Beliefs and Preschool Atmospheres." Journal of Educational Psychology, Vol. 57 (1966), pp. 373-81.
- (35) Hoover, Kenneth. "The Effect of Structural Small Groups Upon Attitude Change." Educational Research, Vol. 9 (June, 1967), pp. 233-36.
- (36) Hovland, Carl I. Communication and Persuasion. New Haven: Yale University Press, 1953.
- (37) "Imperatives in Education." American Association of School Administration, Washington, 1966.
- (38) Jacobs, E. B. "Attitude Change in Teacher Education: An Inquiry into the Role of Attitudes in Changing Teacher Behavior." Journal of Teacher Education, Vol. 19 (Winter, 1968), pp. 410-15.
- (39) Kearney, Nolan D. Elementary School Objectives. New York: Russell Sage Foundation, 1953.

- (40) Kiesler, C. A., and L. H. Corbin. "Commitment, Attraction, and Conformity." Journal of Personal Social Psychology, Vol. 6, pp. 890-95.
- (41) Kelly, Earl C. "The Place of Affective Learning." Educational Leadership. Vol. 22 (April, 1965), pp. 455-57.
- (42) Krathwohl, D. R., B. S. Bloom, and B. B. Masia. A Taxonomy of Educational Objectives: Handbook II, The Affective Domain. New York: David Mc Kay, 1964.
- (43) Leib, Jere W., and William Snyder. "Effects of Group Discussions on Underachievement and Self-Actualization." Journal of Counseling Psychology, Vol. 14 (May, 1967), pp. 282-85.
- (44) McKeachie, W. J. "Individual Conformity to Attitudes of Classroom Groups." Journal of Abnormal Psychology, Vol. 49 (1954), pp. 282-89.
- (45) Miller, K. M. "Attitude Change Through Undirected Group Discussion." Journal of Educational Psychology, Vol. 49 (August, 1958), pp. 224-28.
- (46) Myrick, Robert. "Growth Groups: Implications for Teachers and Counselors." Elementary School Guidance and Counseling, Vol. 4 (October, 1969), pp. 35-42.
- (47) Norris, Eleanor L. "Attitude Change as a Function of Open or Closed-mindedness." Journalism Quarterly, Vol. 42 (1965), pp. 571-75.
- (48) "The Purposes of Education in American Democracy." National Educational Policies Commission, Washington, 1938.
- (49) Rogers, C. R. On Becoming a Person. Boston: Houghton Mifflin Co., 1961.
- (50) Schmuck, Richard, and Patricia Schmuck. Group Processes in the Classroom. Dubuque, Iowa: Wm. C. Brown Co. Publishers, 1971.
- (51) Simpson, Ray H. "Attitudinal Effects of Small Group Discussions." Quarterly Journal of Speech, Vol. 46 (December, 1960), pp. 415-18.
- (52) Sweatmen, Charles. "Operation: New Outlook: A self-Assessment Method for Helping Teachers Change Their Behavior." The Clearing House, Vol. 41 (October, 1966), pp. 67-73.
- (53) Torrance, E. Paul. Encouraging Creativity in the Classroom. Dubuque, Iowa: Wm. C. Brown Co. Publishers, 1970.

APPENDIX A

LETTERS TO THE TEACHERS

January 23, 1973

Dear Teacher:

By now I have talked informally to a great percentage of the teachers in the _____ School System. I welcome the opportunity to get acquainted with more of you. Please don't hesitate to call if I can assist you.

As many of you know, a large portion of my time is spent with students (testing, follow-up, counseling, placement) and consulting with teachers who have problem classroom situations. Additional to the present services offered to teachers is my desire to work with you in other ways.

Recently, a growth group for teachers was conducted in Stillwater by Dr. _____, an _____ professor. It was only a one day seminar, but the comments concerning its effectiveness were very promising. The evaluations of the group session by the teachers, besides being complimentary, strongly urged the continuation of such groups for teachers.

I am offering a similar opportunity for you to participate in a group experience here on the school premises this semester. The group will be conducted in the same manner as a discussion group with the members participating on a voluntary basis only. Every effort will be made to keep the atmosphere as nonthreatening as possible. The group design will include eight one-hour sessions for eight weeks, meeting at 4:00 p. m. or 7:00 p. m. on a suitable day. To complement this, two tapes and one small paperback book will be used as outside activities. After the completion of the scheduled activities, you will have an opportunity to comment on the effectiveness of the program. This information will be of great value as we plan for the coming year.

Recognizing the potential value of these group sessions, the Administration has approved the proposal and offered one hour of in-service credit to all participants.

I need your response this week, which may be indicated by returning this letter to your principal. Please feel free to call if further explanation is needed.

Sincerely,

T. Dale Pollard
School Psychologist

I would like to participate in the group sessions.

Name

School

APPENDIX B

CONCEPTUAL SYSTEMS TEST

CST-LF 2/71

PERSONAL OPINION SCALE

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the 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 feel the same as you do.

Please mark each statement on the line beside the numbers from 1 to 5 depending on how you feel in each case.

- 1 = I agree completely
 - 2 = I agree mostly (i.e., more than disagree)
 - 3 = I agree and disagree about equally
 - 4 = I disagree mostly (i.e., more than agree)
 - 5 = I disagree completely
-

- _____ 1. I think I have more friends than most people I know.
- _____ 2. Contributing to human welfare is the most satisfying human endeavor.
- _____ 3. I like to meet new people.
- _____ 4. No man can be fully successful in life without belief or faith in divine guidance.
- _____ 5. I feel like telling other people off when I disagree with them.
- _____ 6. I like to help my friends when they are in trouble.
- _____ 7. I always like for other people to tell me their problems.
- _____ 8. I like to criticise people who are in a position of authority.
- _____ 9. I feel at home with almost everyone and like to participate in what they are doing.
- _____ 10. In the final analysis, events in the world will ultimately be in line with the master plan of God.

- _____11. The dictates of one's religion should be followed with trusting faith.
- _____12. I like to keep my letters, bills, and other papers neatly arranged and filed according to some system.
- _____13. Most people can still be depended upon to come through in a pinch.
- _____14. I like to join clubs or social groups.
- _____15. Any written work that I do I like to have precise, neat and well organized.
- _____16. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.
- _____17. I like to have my meals organized and a definite time set aside for eating.
- _____18. I like to do things with my friends rather than by myself.
- _____19. I like to have a place for everything and everything in its place.
- _____20. I enjoy very much being a part of a group.
- _____21. I like to help other people who are less fortunate than I am.
- _____22. I like to have my life so arranged that it runs smoothly and without much change in my plans.
- _____23. I like my friends to confide in me and to tell me their troubles.
- _____24. I like to have my work organized and planned before beginning it.
- _____25. I enjoy making sacrifices for the sake of the happiness of others.
- _____26. I feel like making fun of people who do things that I regard as stupid.
- _____27. Sin is but a cultural concept built by man.
- _____28. I like to keep my things neat and orderly on my desk or workspace.
- _____29. I prefer to do things alone, rather than with my friends.
- _____30. I believe that to attain my goals it is only necessary for me to live as God would have me live.

- ____ 31. I find that a well-ordered mode of life with regular hours is suitable to my personality.
- ____ 32. I like to form new friendships.
- ____ 33. These days a person doesn't really know whom he can count on.
- ____ 34. There are some things which God will never permit man to know.
- ____ 35. Politicians have to bribe people.
- ____ 36. I like to start conversation.
- ____ 37. I feel like getting revenge when someone has insulted me.
- ____ 38. I am a very sociable person who gets along easily with nearly everyone.
- ____ 39. I like to treat other people with kindness and sympathy.
- ____ 40. I like to sympathize with my friends when they are hurt or sick.
- ____ 41. I don't like for things to be uncertain and unpredictable.
- ____ 42. You sometimes can't help wondering whether anything's worthwhile anymore.
- ____ 43. I like to plan and organize the details of any work I undertake.
- ____ 44. The way to peace in the world is through religion.
- ____ 45. Guilt results from violation of God's law.
- ____ 46. Anyone who completely trusts anyone else is asking for trouble.
- ____ 47. I like to give lots of parties.
- ____ 48. Marriage is a divine institution for the glorification of God.
- ____ 49. I like to make as many friends as I can.

APPENDIX C

CONCEPTUAL SYSTEMS TEST, FACTORS AND ITEMS

CONCEPTUAL SYSTEMS TEST

<u>Item</u>	<u>Factors</u>	<u>Obl. Fact. Coef.</u>
Divine Fate Control		
31	I believe that to attain my goals it is only necessary for me to live as God would have me live.	81
10	In the final analysis, events in the world will ultimately be in line with the master plan of God.	78
45	The way to peace in the world is through religion.	80
35	Guilt results from violation of God's law.	77
22	Marriage is a divine institution for the glorification of God.	69
4	No man can be fully successful in life without belief or faith in divine guidance.	75
28	Sin is but a cultural concept built by man.	-60
16	The dictates of one's religion should be followed with trusting faith.	64
Need for Structure-Order		
19	I like to have a place for everything and everything in its place.	84
29	I like to keep my things neat and orderly on my desk or workspace.	83
25	I like to have my work organized and planned before beginning it.	62
37	I like to keep my letters, bills, and other papers neatly arranged and filed according to some system.	68
23	I like to have my life so arranged that it runs smoothly and without much change in my plans.	66
44	I like to plan and organize the details of any work that I undertake.	65
14	Any written work that I do I like to have precise, neat and well organized.	54

42	I don't like for things to be uncertain and unpredictable.	55
33	I find that a well organized mode of life with regular hours is suitable to my personality.	74
17	I like to have my meals organized and a definite time set aside for eating.	60

Need to Help People

24	I like my friends to confide in me and to tell me their troubles.	76
47	I always like for other people to tell me their problems.	68
6	I like to help my friends when they are in trouble.	53
2	Contributing to human welfare is the most satisfying human endeavor.	53
21	I like to help other people who are less fortunate than I am.	55
32	I like to treat other people with kindness and sympathy.	52
41	I like to sympathize with my friends when they are hurt or sick.	58
26	I enjoy making sacrifices for the sake of the happiness of others.	54

Need for People

13	I like to join clubs or social groups.	55
20	I enjoy very much being a part of a group.	54
3	I like to meet new people.	69
48	I like to make as many friends as I can.	67
40	I like to form new friendships	74
9	I am a very sociable person who gets along easily with nearly everyone.	60
39	I feel at home with almost everyone and like to participate in what they are doing.	64
11	I like to start conversation.	57

47	I like to give lots of parties.	54
30	I prefer to do things alone, rather than with my friends.	-74
1	I think I have more friends than most people I know.	56
18	I like to do things with my friends rather than by myself.	73

Interpersonal Aggression

5	I feel like telling other people off when I disagree with them.	58
38	I feel like getting revenge when someone has insulted me.	68
27	I feel like making fun of people who do things that I regard as stupid.	61
8	I like to criticise people who are in a position of authority.	53

Anomie

34	These days a person doesn't really know whom he can count on.	73
43	You sometimes can't help wondering whether anything's worthwhile anymore.	57
15	It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.	59
46	Anyone who completely trusts anyone else is asking for trouble.	51
36	Politicians have to bribe people.	69
12	Most people can still be depended upon to come through in a pinch.	50

APPENDIX D

CUTTING POINTS FOR PROFILE ANALYSIS ON THE CST

CUTTING POINTS FOR PROFILE ANALYSIS ON THE CST

System 1 Ss are those who score above 4.19 on Divine Fate Control.

System 2 Ss are those whose score pattern is:

Less than or equal to 4.19 on Divine Fate Control.
Greater than 3.75 on Interpersonal Aggression.
Greater than 3.39 on General Pessimism.

System 3 Ss are those whose score pattern is:

Less than or equal to 4.19 on Divine Fate Control.
Less than or equal to 3.75 on Interpersonal Aggression.
Greater than 4.10 on Need for People.

System 4 Ss are those whose score pattern is:

Less than or equal to 4.19 on Divine Fate Control.
Less than or equal to 4.10 on Need for Structure-Order.
Less than or equal to 4.10 on Need for People.
Less than or equal to 3.75 on Interpersonal Aggression.

Note: Before applying mean scores to this guide, the item scores must be reversed in numerical value. For instance, a score of 1 will become 5 and a score of 2 will become 4, and vice versa.

APPENDIX E

TEACHER QUESTIONNAIRE

TEACHER QUESTIONNAIRE

Each item should be responded to with one of the following numbers:
1 - I disagree, 2 - I disagree mostly, 3 - I disagree and agree equally,
4 - I agree mostly, and 5 - I agree completely.

- _____ 1. I benefited from attending the group sessions.
- _____ 2. I felt threatened during most of the meetings.
- _____ 3. I have given more thought to my own beliefs since attending these sessions.
- _____ 4. I have given more thought to the beliefs of others since attending these sessions.
- _____ 5. I pretty well have my mind made up about most things.
- _____ 6. I would like to attend a group with more physical (sensitivity group experiences) activities.
- _____ 7. I would like to attend a group that would permit me to work out my personal problems.
- _____ 8. I think there is too much organizational structure (including codes, rules, and regulations) in our school system.
- _____ 9. I like to be with people most of the time.
- _____ 10. I am a creative person.

APPENDIX F

STUDENT QUESTIONNAIRE

STUDENT QUESTIONNAIRE

Each item should be responded to with one of the following numbers: 1 - I disagree completely, 2 - I disagree mostly, 3 - I disagree and agree aqually, 4 - I agree mostly, and 5 - I agree completely.

- _____ 1. I benefited from attending the group sessions.
- _____ 2. I felt threatened during most of the meetings.
- _____ 3. I would like to have discussed more of my personal problems.
- _____ 4. The group topics should be discussed among high school groups.
- _____ 5. I would like to become a member of a group which is composed of an equal number of students and teachers.
- _____ 6. During the discussions (item 5) I think the students should do most of the talking.
- _____ 7. I would like to find out more about the thoughts and feelings of other group members.
- _____ 8. In most of my classes students are free to discuss topics with the teacher.
- _____ 9. I think I would learn more if we had class discussions.
- _____ 10. Since these group discussions, I have given more thought to my own beliefs.
- _____ 11. Since these group discussions, I have given more thought to the beliefs of others.
- _____ 12. My mind is pretty well made up about most things, so it doesn't help me to discuss with others.
- _____ 13. Parents usually listen to what I have to say on most subjects.
- _____ 14. Teachers usually listen to what I have to say on most subjects.
- _____ 15. I would feel free to discuss any of the topics we discussed in these groups with my parents.
- _____ 16. I would feel free to discuss any of the topics we discussed in these groups with my teachers.

- _____17. I would feel free to discuss any of the topics we discussed in these groups with my principal and assistant principal.
- _____18. I would feel free to discuss any of the topics we discussed in these groups with the school board members.
- _____19. I depend on the opinions of adults for my self direction.
- 20. I could enjoy life more if (complete the sentence).

APPENDIX G

STUDENT QUESTIONNAIRE, ITEM 20

STUDENT QUESTIONNAIRE

Typical Responses to Item 20

Item 20: I could enjoy life more if

Independence-Dependence Influences

- my parents would let me live my own life.
- I had what I wanted and could do what I wanted to do.
- people would get off my back and let me live my life the way I want.
- I was understood more by my parents.
- I was away from home and secure.
- I was more free to say the things I want to say.

Social Influences

- people would listen to and understand each other.
- people would get along with each other.
- there were not so many world problems.
- people would treat each other equally.
- others would try to enjoy life.
- no one condemned others.

Internal Influences

- I had more to offer people.
- I could be myself more.
- I knew where I was going and what I was going to do.
- I could forget my troubles.
- I had no worries and could go to heaven.
- things would go right for me.

APPENDIX H

TEACHERS ' AND STUDENTS ' CONCEPTUAL SYSYEMS CLASSIFICATIONS

TABLE XLVI
 DEMOGRAPHIC DATA AND CONCEPTUAL SYSTEMS
 CLASSIFICATIONS FOR EACH SUBJECT
 IN TEACHER GROUPS

		Conceptual Systems Classifications				Total
		1	2	3	4	
<u>Experimental Group 1</u>						
Sex:	Male				1	1
	Female	5			4	9
	Total	5			5	10
Age:	20-30				4	4
	31-40	2			1	3
	41-50	2				2
	51-60	1				1
	Total	5			5	10
School:						
	Elem.	4			3	7
	Jr. Hi.				1	1
	Sr. Hi.	1			1	2
	Total	5			5	10
<u>Experimental Group 2</u>						
Sex:	Male				1	1
	Female	3			6	9
	Total	3			7	10
Age:	20-30				2	2
	31-40	2				2
	41-50				5	5
	51-60	1				1
	Total	3			7	10
School:						
	Elem.	2			4	6
	Jr. Hi.				2	2
	Sr. Hi.	1			1	2
	Total	3			7	10

TABLE XLVI (Continued)

Control Group 3

Sex:	Male		3		3
	Female	3	2	2	7
	Total	3	5	2	10
Age:	20-30		3		3
	31-40	1			1
	41-50	2	1	2	5
	51-60		1		1
	Total	3	5	2	10
School:					
	Elem.	2	1	2	5
	Jr. High	1	1		2
	Sr. High		3		3
	Total	3	5	2	10
Grand Totals	11		5	14	30

TABLE XLVII

SEX AND CONCEPTUAL SYSTEMS CLASSIFICATIONS
FOR EACH SUBJECT IN THE STUDENT GROUPS

Group	Conceptual Systems Classifications				Total
	1	2	3	4	
<hr/>					
<u>Experimental Group 4</u>					
Sex: Male	3	3	1	4	11
Female	1		1	1	3
Total	4	3	2	5	14
<u>Control Group 5</u>					
Sex: Male	4		1	5	10
Female	2			1	3
Total	6		1	6	13
<u>Experimental Group 6</u>					
Sex: Male	1	1		2	4
Female			2	5	7
Total	1	1	2	7	11
<u>Control Group 7</u>					
Sex: Male	3		1	6	10
Female	2			2	4
Total	5		1	8	14
Grand Totals	16	4	6	26	52

2

VITA

T. Dale Pollard

Candidate for the Degree of

Doctor of Education

Thesis: INFLUENCING BELIEF SYSTEMS THROUGH TEACHER IN-SERVICE
TRAINING AND STUDENT GROUP COUNSELING

Major Field: Educational Psychology

Biographical:

Personal Data: Born in Ardmore, Oklahoma, June 18, 1936
the son of Mr. and Mrs. Dave Felix Pollard.

Education: Graduated from Technical High School, Ft. Worth,
Texas, May, 1954; received the Bachelor of Science in
Education degree from Southeast Missouri State College,
Cape Girardeau, Missouri, 1968, with a major in Social
Studies; received the Master of Arts in Education degree
from Murray State University, Murray, Kentucky, 1969,
with a major in Counseling and Guidance; completed
requirements for the Doctor of Education degree at
Oklahoma State University in July, 1973, with a major
in Educational Psychology.

Professional Experience: Junior High School teacher in East
Prairie, Missouri, 1967-1968; graduate teaching assistant,
College of Education, Oklahoma State University, 1970-1971;
school psychologist, Broken Arrow Public Schools, Broken
Arrow, Oklahoma, 1971-1973.