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Attitudes and Behavior of Educators Involved in Confluent Teaching

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ATTITUDES AND BEHAVIOR OF EDUCATORS INVOLVED IN CONFLUENT TEACHING

by

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ATTITUDES AND BEHAVIOR OF EDUCATORS INVOLVED IN CONFLUENT TEACHING

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The review of the literature provided relevant information already available through the efforts of other researchers. A multi-discipline approach in this review resulted in several conclusions:

1. Certain bio-self needs result in feelings that cause behavior.

2. Feelings and learning can be correlated so that behavior change takes place.

3. Learning without attendant positive feelings does not guarantee behavior change.

4. Learning without attendant positive feelings may result in attitude change as reflected verbal assessment.

5. Verbalized attitudes may not be positively correlated with behavior.

The study is based upon this last proposition. In an effort to analyze and clarify the question, 97 educators and a sample of their students were assessed on a pre and post basis with three affective instruments for each group. The population sampled, worked and studied at two elementary schools serving the children of United States Air Force personnel located at Grand Forks, North Dakota.

The instruments utilized in the study were the following: the Index of Adjustment and Values, the Ideal Child Checklist, the Philosophy of Human Nature Scale, the Self Appraisal Inventory, and the School Sentiment Index. The data collected through use of these instruments and resulting from special grouping (role, special training, age, background, and experience) was analyzed using the techiques of factor analysis, item analysis, T tests, and correlation coefficients.

Fifteen hypotheses were tested as part of the study and grouped into three categories. The first category of hypotheses relate to perceived relationships between selected educator attitudes. The second category of hypotheses were stated in respect to perceived relationships in attitudes between selected groups of educators. The last category of hypotheses were stated in respect to educator attitudes as expressed on an a priori basis and then related to attitudes expressed by students seven months later.

The data in general provides support for the proposition that verbally expressed attitudes are not a good indicator of behavior. Further, special affective in-service education was not correlated highly with any set of tested attitudes. The significant correlations and differences found in this study were in respect to one's role.

It is recommended that the feeling factor of attitudes be further researched and assessed. Such testing, it is purposed, would include a behavioral component and a scientific control group.

This dissertation submitted by Martin M. Koller in partial fulfillment of the requirements for the Degree of Doctor of Education from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

(Chairman)

Dean of the Graduate School

Permission

Title ATTITUDES AND BEHAVIOR OF EDUCATORS INVOLVED IN CONFLUENT TEACHING

Department Center for Teaching and Learning

Degree Doctor of Education

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ABSTRACT

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The review of the literature provided relevant information already available through the efforts of other researchers. A multi-discipline approach in this review resulted in several conclusions:

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It is recommended that the feeling factor of attitudes be further researched and assessed. Such testing, it is proposed, would include a behavioral component and a scientific control group.

CHAPTER I

INTRODUCTION

Changes in educational priorities and objectives result in a need for changes in educator attitudes and behavior. A successful innovative educational program requires educator attitudes and behaviors that are supportive of the desired objectives.

Educators, psychologists, sociologists, and biologists agree that many variables need to be considered when attempting to change human behavior in a given direction. There is considerably less agreement as to the relative importance of the different variables. Thus, the educational planner is forced to choose from conflicting research conclusions and theories when implementing change.

Typically, when human attitudinal and behavioral change is desired, a variety of teaching techniques are employed, and the results are measured in terms of verbalized conceptions. Generally, it is assumed that if an individual reports a significant change in attitude and/or knowledge, his behavior has changed.

A very basic assumption of this type relates a self-report of positive self-acceptance with behavior that is outgoing and constructive. Attitudes that are expressed positively towards other subjects are also usually associated with correlating behavior (Sampson, 1971).

It has been found, however, that verbalized attitudes may serve little usefulness as predictors of behavior (Wicker, 1969). Such a

finding, if verified, would remove part of the rationale for much of the educational process and its measurement.

This concern, then, provides the rationale for this study. If it can be shown that attitudes commonly accepted as positively related are in conflict, then a new conceptual basis for this portion of educational objectives may be required. Furthermore, if it can be shown that attitudes as expressed by educators are in conflict with their perceived behavior, the need for a new concept of human change may be required. Variables positively related to attitude change may be different from those related to behavioral change.

Statement of the Problem

This study involves the following: (1) measuring the relationships between selected educator attitudes, (2) measuring the relationships between selected attitudes of the educator and his students, and (3) assessing the effect of self enhancing education training on selected teacher attitudes.

Hypotheses To Be Tested

The following hypotheses were formulated for testing in this study:

1. There is no significant relationship between educator reports of self-acceptance as measured by the Index of Adjustment and Values (Bills, 1957) and their belief in the creative child as an ideal student as measured by the Ideal Child Checklist (Torrance, 1970).

2. There is no significant relationship between teacher reports of self-acceptance (Index of Adjustment and Values) and student attitudes towards self as measured by the Self Appraisal Inventory (IOX_b, 1970).
3. There is no significant relationship between teacher reports of self-acceptance (Index of Adjustment and Values) and student attitudes towards peers as measured by the School Sentiment Index (IOX_a, 1970).
4. There is no significant relationship between teacher attitudes towards the creative student as an ideal child (Ideal Child Checklist) and student attitudes towards their teachers (School Sentiment Index).
5. There is no significant relationship between a positive belief in mankind on the part of educators as measured by the Philosophy of Human Nature Scale (Wrightsman and Satterfield, 1967) and their attitude towards the creative student as the ideal child (Ideal Child Checklist).
6. There is no significant relationship between a positive belief in mankind on the part of educators (Philosophy of Human Nature Scale) and a positive attitude towards themselves (Index of Adjustment and Values).
7. There is no significant relationship between educator beliefs concerning human multiplexity (Philosophy of Human Nature Scale) and their attitude towards the creative student as the ideal child (Ideal Child Checklist).

8. There is no significant difference in the way males view the ideal child (Ideal Child Checklist) as compared to the way females view the ideal child.
9. There is no significant difference in attitude toward self (Index of Adjustment and Values) of educators formally trained in Self Enhancing Education when compared with educators receiving no formal Self Enhancing Education training.
10. There is no significant difference in belief in the positive nature of man (Philosophy of Human Nature Scale) of educators formally trained in Self Enhancing Education when compared with educators receiving no formal Self Enhancing Education training.
11. There is no significant difference in attitude towards the creative student as an ideal child (Ideal Child Checklist) of educators formally trained in Self Enhancing Education when compared with educators receiving no formal Self Enhancing Education training.
12. There is no significant difference between educators under twenty-six years and those over twenty-six years in regard to their attitude towards the creative child as an ideal child (Ideal Child Checklist).
13. There is no significant difference in attitude towards the creative student as the ideal child (Ideal Child Checklist) of educators who are teachers when compared with educators who are aides.

14. There is no significant difference in attitude towards the creative student as the ideal child (Ideal Child Checklist) of educators with a rural background (2,500 population or less) when compared with educators with an urban background (2,500 population or more).
15. There is no significant difference in attitude towards the creative student as the ideal child (Ideal Child Checklist) of educators who are new (first year) to the pilot schools when compared with educators who have spent more than one year in the pilot schools.

Purposes of the Study

The purposes of this study are as follows:

1. To identify the key variables involved in behavior formation through a review of the literature.
2. To identify the key components of a cognitive-affective education model as indicated by a review of the literature.
3. To determine relationships between educators and their attitudes towards self, man, and students.
4. To determine whether educator attitudes towards the creative child as an ideal child are consistent with his behavior as reflected by student attitudinal reactions.
5. To analyze selected changes in educator attitude resulting from special training in Self Enhancing Education.

Need for the Study

A review of the literature indicates that there is considerable doubt concerning the belief that there is a positive relationship between verbalized attitudes and behavior. Extensive reviews of related research by Fishbein (1967) and Sampson (1971) indicate little, if any consistency between that which one says he believes in and that which he is observed to do. Educational change agents that do not cause the person's interpersonal behavior and self-perceptions to be activated (e.g., lectures, case discussions, and readings) may be expected to result in a change in verbal statements about interpersonal behavior, but should not be expected to cause a change in behavior (Bolman, 1968).

Since most educational objectives are based upon objectives measured by a student's verbal display of knowledge and/or attitudes, these relationships should be proven to exist. Research by Combs, Avila and Purkey (1971) seems to indicate that values, beliefs, and purposes are the accepted criterion for behavior prediction. Yet, research by Bem (1971) shows that attitudes as indicators of future behavior are quite unimportant, and are nonexistent until one is asked to explain his actions.

This inconsistency between attitudinal objectives and behavioral outcomes is indicated by the nature of current educational conditions. For example, the schools in the Grand Forks School District are considered by many to be progressive and innovative. Bergquist (1970, p. 5) writes:

> In this school district we have now made great efforts to define our curriculum road and mark it well. Our behavioral objectives and the supporting instructional contracts have been developed through months of effort by many people. . . . I know of no school district that has as thoroughly developed a curriculum road.

Yet, academic outcomes leave much to be desired. McElroy and Others (1970, p. 36) report:

> A study of test results since 1963 indicates that the Grand Forks Schools have declined in academic achievement as measured by the Iowa Test of Basic Skills through 1968. This is illustrated by the following composite grade equivalent scores based on city averages:

Grade	1963	1964	1965	1966	1967	1968
3	3.6	3.7	3.7	3.5	3.2	3.2
4	4.8	4.6	4.4	4.5	4.2	4.2
5	6.0	5.6	5.9	5.7	5.3	5.2
6	7.0	6.6	6.8	6.4	6.4	6.2

Research on a national level by Silberman (1970, p. 10) who made an extensive three-year study of American education indicates a similar discrepancy between stated objectives and actual behavior. He reports:

> Because adults take the school so much for granted, they fail to appreciate what grim, joyless places most American schools are, how oppressive and petty are the rules by which they are governed, how intellectually sterile and esthetically barren the atmosphere, what an appalling lack of civility abstains in the part of teachers and principals, what contempt they unconsciously display for children as children.

Data collected in the Grand Forks High Schools concerning student attitudes and perceptions of the educational climate indicates that the learners do not perceive the curriculum in the way the educators intended. Hagerty (1971, p. 2) writes:

> In a survey of attitudes at the two high schools last week, a representative selection of students were given a choice of words to describe their education. They were asked to check the school as it is and as it should be. At both Central and Red River under "As it is" students checked words like frustration, boredom, misunderstanding, and apathy. They indicated it lacks relevance, humanism, self-reliance, participation, friendship, creativity, and practical knowledge.

Statistics cited in the North Dakota Title III ESEA "Assessment of Educational Needs," from the Department of Public Instruction (1969) show a high priority need for a program for alienated students in the Grand Forks region as well as the entire state.

The 1970 White House Conference on Children (1970) placed the need for a creative environment at the top of a list of twenty-five recommendations.

The need for changes in educator behavior is also indicated by the funding of a program designed to equip Grand Forks Air Base educators with the necessary self-concepts and affective techniques required in order to change student self-concept (O'Shea and Taylor, 1971).

Definition of Terms

Certain terms, basic to the concepts discussed in this paper, are defined as follows:

Attitude.--This term refers to the conscious perceptual state of an individual with respect to some aspect of the world which he distinguishes from other aspects (Dictionary of the Social Sciences).

Confluent.--The synergistic flowing together of the cognitive and affective human state is referred to as confluent (Brown, 1971).

Affective.--Perceptions that are derived from the intuitive and subconscious with the consciousness of these perceptions including feelings are considered as affective (Williams, 1969).

Cognitive.--Perceptions that are basically objective, rational, and conscious are considered as cognitive (Williams, 1969).

Synergy.--This term is defined as a combination of parts in such a way that the resulting unit or system depends on the interrelationships between the parts to provide a function that surpasses the total function of all the parts utilized individually (Wilson and Others, 1969).

Self-Enhancing.--The technique of reflective listening and congruent sending, perceived to be useful in changing self-concept, is referred to as Self-Enhancing Education (Randolph, Howe, and Actherman, 1968).

Self-Acceptance.--Used synonomously with self-concept in this paper, self-acceptance refers to the psychosociological state of individual well being (Bernard and Huckins, 1967.

Change.--As used in this study, change may refer to physically observable alterations considered as behavioral change, or of conceptual alterations considered as attitudinal change (Sampson, 1971).

Creativity.--This term as used herein refers to a natural inclination to explore, manipulate, and understand (Kagan, 1967).

Self-Actualization.--When referring to an individual with his basic needs sufficiently met to allow natural growth, the term of self-actualization is used (Maslow, 1968).

Educator.--As used in this study, an educator may be a teacher aide, classroom teacher, administrator/supervisor, or a learning specialist.

Teacher.--Only those educators actively responsible for the learning activities of specific students are referred to as teachers.

Intermediate.--For the purposes of this study students and teachers in grades six, seven, and eight are referred to as intermediate.

Primary.--For the purposes of this study students and teachers in grades three, four, and five are referred to as primary.

Limitations

This study is limited by the following:

1. The possibility of unique student traits due to the fact that all of the sample consisted of the children of military personnel.

2. The non-urban location of the schools since they are located fifteen miles from Grand Forks.
3. The fact that although only certain educators received formal Self Enhancing Education training; all of the rest of the sample received informal training.
4. The student sample consisted of 301 individuals with grades three and five evaluated at one school and grade four at the other. Total enrollment as of September 7, 1971, was 2,049.
5. The faculty evaluated consisted of ninety-seven educators including fifteen teacher aides, seven supervisors and/or administrators, and seventy-four professionals with roles directly related to classroom teaching.
6. Twenty-one of the thirty-one teachers whose students were evaluated were members of teaching teams.

Procedures

The procedures utilized in this study can be considered from two viewpoints. The first concerns the theoretical rationale, and the second pertains to the data procurement and analysis.

Theoretical Rationale.--Since the major purpose of this study was to gain an understanding of the process of human behavior change, it seemed logical to take into consideration the findings and thinking of a wide range of experts and human disciplines. It also seemed logical to assume that one could accept as basic premise those conceptions that were accepted on this broad basis. If a major discrepancy were found, it was believed that this was to be questioned and, if possible, resolved.

The review of the literature provided the basis for the framework. As indicated in Chapter II, certain biological self-needs may be nurtured or frustrated by society with the end result being the perceptual state of the individual at a given time. The literature seemed quite consistent on this matter, but diverged widely concerning the subject of behavior change and measurement. The area most open to debate seems to concern the question of whether change agents that cause reported attitudinal change are useful in causing behavioral change.

Two approaches seemed plausible. One would involve a review of the literature pertaining to research actually reporting behavior change; the other approach would be to attempt to find what, if any, relationships do exist between verbalized attitudes, and between verbalized attitudes and perceived behavior.

A review of the research pertaining to behavior change indicates that such change has been most successfully caused by involvement in interaction or sensitivity groups (Durham and Others, 1967). Since considerable research has been carried out in the area of behavior change through small group interaction (Thelen and Others, 1969), measurement of attitudinal and behavioral relationships was chosen as the subject of this study.

Assessment.--In order to gain an understanding of the interaction between attitude and behavior, relationships were put into propositional form. The first proposal is that behavior of teachers can be determined by an analysis of their students' attitudes towards them and related school variables. The second proposition is that the validity of verbalized attitudes as useful predictors of behavior can be tested by

assessing congruency or dissonance among a number of verbalized educator attitudes on the subject of human nature.

The study involved the assessment of selected attitudes held by the ninety-seven educators at two Grand Forks, North Dakota, public elementary schools, and the assessment of selected attitudes held by 301 students of these same educators. The educator sample consisted of the entire educational staff at both schools; test-retest assessment took place in late August, 1971, and in late April, 1972. The student sample consisted of all third and fifth grade students at one school and all fourth grade students at the other school. The students were assessed during the week of September 20 through 24, 1971, and retested during the period of April 10 through 20, 1972.

Pre and post testing provided data necessary to obtain reliability scores. Teacher attitudinal scores were correlated with those of the students by considering the educator scores on the pre tests as predictors of student attitudes on the post tests. A detailed description of the data collecting and analysis processes is contained in Chapter III.

Organization of the Chapters

Each chapter is designed to provide information about the problem of the study and the findings of the research. Basically, the chapters contain the following:

Chapter I introduces the problem and provides the propositional background for the study.

Chapter II contains a review of literature that pertains to the objectives of the study.

Chapter III explains the procedures employed in obtaining and analyzing the data.

Chapter IV presents an analysis of the data and the interpretation of the findings.

Chapter V summarizes the findings. On the basis of the findings and the review of the literature, conclusions and recommendations were formulated.

CHAPTER II

REVIEW OF THE LITERATURE

The framework of this study includes consideration of man's biologically derived needs as influenced by the nurturing or frustrating effect of his environment. One's perceptions of himself and the world around him are seen as the result of interaction between one's needs and his environment. Further, the perceptions and behavior of the individual are seen to evolve from the individual's state of feelings. Finally, one's feelings are considered to evolve from a conscious and subconscious assessment, on the part of the individual, of the degree of need satisfaction provided by his environment (Perls, 1969).

It follows, then, that all human behavior is purposeful since it results from a state of need indicated by perceived feeling. The conception of rule following purposeful behavior is considered by Sampson (1971, p. 21) to provide " . . . a useful bridge between psychology and the disciplines of sociology and anthropology . . . " Sampson lists three major functions of such a model:

1. They can provide an outline of the necessary conditions to human nature. A theory of physiological activation based on man's biological needs, for example, points out certain organismic need states necessary to an understanding of his behavior.
2. They can point to individual differences in performance as a function of variations in these necessary organismic states.
3. Finally, causal explanations can explain action that involve an extreme breakdown in performance.

The approach that will accordingly be taken considers human behavior and perceptions from an organismic (total) conception (Perls, 1969) while attempting to analyze human activities utilizing an interactionist model (Robington and Weinberg, 1968). In other words, the individual is considered as a unit that evolves dynamically as a result of his assessment of environmental influences upon his needs.

The first tack is that of identifying the biological (evolutionary) needs of man. Once these are laid out and labeled, the study of society's effect on them can be made. Social conditions as tempered by environment should serve to provide insight into the causes of individual levels of self-acceptance at a given time. Induced change can result from manipulating social and environmental factors in ways that are congruent or incongruent with the self-needs of the individual (Purkey, 1970).

The structure of this chapter is as follows. First, the perceived biological factors are considered. Second, the social factors are considered. Third, the conditions of change and the interaction of these factors are considered. Fourth, generalizing from the results of this interaction, propositions concerning attitudinal and behavioral changes are considered.

Identification of the Biological Self-Needs

The human organism arrives upon the cultural and environmental scene with a number of basic self-needs. These are identified in this paper as these: (1) security, (2) belonging, (3) mastery, (4) stimulation, and (5) expression. Each of these needs is conceived of as having many facets. All of the self-needs are interdependent, forming a synergistic whole (Perls, 1969).

In composing this list of self-needs, the thinking of a number of scientists was drawn upon. Maslow's (1968) hierarchy of needs suggests that a need to know is based upon a need to grow, which in turn is based upon feelings of self-esteem. These needs rest upon fulfillment of love, safety, and physiological requirements. The hierarchy and some of the philosophy underlying the factor choice are rejected. The factors themselves are accepted and incorporated into the approach used herein. The physiological needs are considered as a part of belonging. The safety needs are considered as a need for security. Love and esteem needs are part of the need to belong and express. Need to know is a part of mastery. All of the factors together are considered to be the motivation for self-actualization or growth.

Schindler (Maltz, 1960) believes that every human being has six basic needs. These are love, security, creative expression, recognition, new experiences, and self-esteem. As in the case of Maslow's suggested needs, Schindler's were incorporated into the set used in this paper. Love is a part of belonging; expression and recognition are considered as one under expression; new experience is considered under stimulation; self-esteem is considered under belonging. Security and expression are used almost as presented by Schindler.

Another basic set of human characteristics considered was that of Thomas (Sampson, 1971) who suggests that an understanding of four wishes is needed to gain an explanation of human behavior. He identifies these wishes as a desire for new experience and fresh stimulation, desire for recognition; desire for mastery, and desire for security. The concepts of security, mastery, and stimulation are

utilized much as presented. The need for recognition is considered encompassed by the need for expression.

The findings and conclusions of a number of biologists and anthropologists, as well as that of psychologists, were considered. After identifying a number of needs, the author reviewed the works of these thinkers and attempted to relate their concepts with the identified needs. The choice of security, belonging, mastery, stimulation, and expression as the basic self-needs of all man resulted from this review. An outline of some of the biological and anthropological findings is included in Table 1 on the following page.

The labeling of the self-needs and variables identified as related to them is open to criticism. The author is quite aware that many other variables could be considered. The object, however, is to show that there is considerable evidence suggesting these are basic underlying causes of human behavior. The purpose is to present these needs in a form that will lend itself to empirical measurement.

Despite the deviancy of this approach, it is perceived by the author as one that will lead to added wisdom. Zoologist and anthropologist Morris (1969, p. 198) writes: "We think of ourselves as blank sheets on which anything can be written. We are not. We come into the world with a set of basic instruction and we ignore or disobey them at our peril."

The self-needs are each a component of the totality of the organism. All of one's self-needs and his state of gratification at a given time interact to produce a whole that is considerably more than the totality of needs taken independently. To dissect the organism, therefore, while being useful for analytical purposes, results in a loss of unknown quality and quantity.

TABLE 1

BIOLOGICAL AND ANTHROPOLOGICAL VALIDATION OF HUMAN SELF-NEEDS

Need	Biological Facets	Anthropological Facets
Security	Stability (Waddington, 1960) Self-Deception (Morris, 1969) Social Order (Tiger, 1969) Conscience (Ardrey, 1966)	Maintenance and Norms (Bohannan, 1964) Defense (Shils, 1967) Social Control (Bruner, 1964) Myths (Tax, 1964)
Belonging	Bonding (Tiger, 1969) Mutual Aid (Morris, 1969) Territorial Defense (Ardrey, 1966) Identity (Ardrey, 1966)	Family (Bruner, 1964) We-Ness (Shils, 1967) Home Base Food Sharing (DeVore, 1964) Recognition (Thomas by Sampson, 1971)
Mastery	Invention (Waddington, 1960) Intelligence (Pilbeam, 1967) Domination (Morris, 1969) Imprinting (Morris, 1969)	Self-Understanding (DeVore, 1964) Power (Fried, 1964) Tool Making (Howell, 1964) Authority (Fried, 1964)
Stimulation	Excitement (Tiger, 1969) Hunting (Tiger, 1969) Aggression (Lorenz, 1963) Competition (Morris, 1969)	Frustration (Bruner, 1964) Inequality (Fallers, 1964) Prestige (Wolf, 1964) New Experience (Thomas by Sampson, 1971)
Expression	Creativity (Morris, 1969) Antagonism (Ardrey, 1966) Amity (Ardrey, 1966) Manipulation (Pilbeam, 1967)	Exploitation (DeVore, 1964) Roles (DeVore, 1964) Vicarious Gratification (Bruner, 1964) Language (Ervin, 1964)

With this awareness each of the self-needs will be stated in propositional form. The proposition will be supported by relevant findings as indicated by the review of literature. The attempt will be made to use "differential thinking" (Perls, 1969) in stating these propositions. This approach utilizes a continuum between the opposite ends of a concept while perceiving all phenomena related as falling within this "field."

Security.--The need of the organism to find a balance between absolute structure and chaos is referred to as security. Such balance is required in respect to physical, cognitive, and emotional needs. It is proposed that too little security will result in behavior aimed at anxiety reduction. Such behavior will be indicated by abnormally high feelings of anxiety, threat, frustration, and emotionality. Overt actions may take the form of rationalizations, escapism, violence, and mental selectivity. In any case, the organism will engage in little constructive problem solving. An excessive amount of security will result in a little goal oriented motivation, and restlessness accompanied by a lack of direction. Stimulation will be sought, with little regard for social norms and morals. Security at the optimum level will provide the organism with a balance between all needs, including those of food, shelter, sex, and those identified in this paper.

Humans will often express themselves verbally in culturally acceptable ways while satisfying a basic need for novelty repressed by society. For example, Zillman (1970) found that subjects viewing educational, aggressive, and erotic films reported highest interest in the educational films and the lowest for the erotic. Heightened

interest as indicated by blood and rate of heartbeat indicated, however, that the erotic films were most exciting. Research by Dr. Ginandes (Blum, 1970) on the subject of theft on the part of young women bears out this theme of excitation need-fulfillment despite society's norms.

In a discussion concerning the evolution of intellectual thinking on human behavior, Sampson cites studies by Harlow, Butler, Olds, and Milner in suggesting that one's actions may be directed away from a position of security. Sampson (1971, p. 20) concludes:

> Rather than being driven solely by physiological drives, man and animals seemed to be driven by more cognitive conditions: to know, to find meaning, to play, to enjoy, to manipulate, to explore, to experience novelty, to master, and so on.

Curiosity, which would seemingly dispel feelings of over-security, has also been found to be natural to man (Glickman, 1971). Easton and Dennis (1967) find that the result of such exploration would relate to one's general sense of effectiveness in mastering and manipulating his social environment.

On the other hand, Torrance (1962, p. 171) in working with students with stress problems finds that " . . . some kind of structure, someone or something to help remove the fear of the unknown . . ." is needed, along with a human friendly environment.

The human organism, then, seems to prefer a consistent, balanced, congruent, harmonious world to that of chaos or absolute structure. The individual's security balance can be threatened by excessive stimuli as previously noted, or by states of deprivation under which one will grasp for any cue or stimuli including those created by imagination (Sampson, 1971).

Belonging.--The organism's need to find a balance between complete social isolation and total social conformity is referred to as

belonging. It is proposed that a need for belongingness is fulfilled by intimate peer group relations. By belonging to an excessive number of such groups or as a result of excessive social organization, one will suffer norm dissonance. In a situation containing a lack of intimate peer groups, one will become alienated from the larger society while also feeling lost, unworthy, meaningless, and anxious.

The need to belong seems very basic. Tiger (1969) who spent several years reviewing related literature reports that grouping behavior is the result of inborn biological programs. When one thinks others need him, or that he is performing his duty, he is simply expressing his need for the love and admiration of others (Putney and Putney, 1964).

Cross-cultural studies by Greenfield and Bruner (1971) indicate that a collective outlook towards life is basic to the less technologized societies. They suggest that formal socialization results in the promotion of a "self-consciousness" (p. 43). This indicates that the need to belong is more basic than the need for autonomy.

It has also been noted that non-conformists are disliked by society's members. In a study concerning social deviancy Doob (1971, p. 113) reports, "Overwhelmingly the non-deviants picked deviants for the unpleasant task . . ." The need for social acceptance by others results in making personal sacrifice to avoid " . . . looking foolish or incompetent in public" (Brown, 1971, p. 57).

On the opposite side, Gill (1969) found that a feeling of acceptance by teachers and peers was positively correlated with over-achievement. After reviewing research by Barron, Wild, Grinker, and others, Lazarus (1969, p. 357) concludes that the healthy personality is " . . . characterized by <u>mutuality</u> and genuine respect and affection."

One of man's most basic needs is that of belonging. Whether described as a need for love, understanding, cooperation, or self-image building, it amounts to a need for deeply meaningful self-other interaction. The primary group provides this function, if the need is to be fulfilled.

Mastery.--Man's need to understand and control is referred to as mastery. This need can result in behavior that is aimed at control and order or that is characterized by a lack of understanding and ability to manipulate. Norms, laws, social structures, all types of learning, and social status are examples of the outcomes of behavior resulting from this need.

It is proposed that humans who feel relatively ineffective concerning mastery of their world will behave in a listless-apathetic or aimless, negative way. One who feels that he is capable of mastering important areas of his perceived world will behave in positive, goal oriented, optimistic ways.

That man naturally wishes to understand himself and his environment has been noted by anthropologists (Tax, 1964), by sociologists (Kluckhohn, 1960) and by psychologists (Sampson, 1971). A review of the literature suggests almost complete agreement over this fact, but reveals a wide variety of notions concerning what should be learned, why one learns, how one learns and so on.

Mastery, manipulation, ordering, and the like are based on understanding or knowledge. Given the knowledge needed to master an objective, the individual who attains his goal will feel satisfaction (Klausmeier and Goodwin, 1961). Mannheim (Sampson, 1971) notes that

what and how one learns is directly related to his culture and environment. although the individual is not likely to be aware of this.

Sometimes mastery and the need for control frustrate one's need to learn. Wrightstone (1968, p. 58) cites three studies showing that ability grouping in educational institutions often " . . . leads teachers to underestimate the learning capacities of pupils . . ." Moore and Ornstein (Torrence, 1962) have shown that authority gets in the way of creative learning. Hess and Torney (Dawson and Prewitt, 1969) have found that teachers are more interested in compliance to school rules than to the increased understanding of one's political system.

The fact is that man devotes an enormous amount of his resources to further his understanding and control of his environment. Such mastery is greatly facilitated by a quite distinctly human ability to interact via symbols (Mead by Sampson, 1971).

Stimulation.--Man's need for a balance between extreme emotional excitation and a lack of emotional excitation is referred to as stimulation. Overstimulation will be avoided by the organism, as will understimulation. Stimulation may be derived from many sources, and may be of a negative or positive nature. Emotional stimulation will result in heightened physical activities (e.g., heartbeat) as well as increased social and mental activities. A lack of stimulation will result in seeming mental and physical lethargy until the organism finds a way to resolve the conflict. The person suffering from understimulation will search for and/or create exciting conditions. One who is overstimulated will actively depress and repress such feelings and/or their stimulus. Much of man's stimulation results from social interaction. Imagination and technology offer other avenues of satisfaction.

Hardy (Berkowitz, 1971) found that an excessive amount of stimulation will eventually result in satiation. Berkowitz (1971) also cites work by Howard to show that removal of the excitation stimulus will quickly result in recovery of the original interest in the exciting phenomenon. Sampson (1971) finds that in a sterile environment, one will employ imagination and "heightened sensitivity" in order to find meaning.

Lange, Baker, and Ball (1969) report research that indicates that television viewers, while professing a distaste for media violence, are greatly attracted to these programs. Zillman's (1970) study on Excitation Transfer also showed that erotic and violent themes excited the subjects while being verbally rejected. He suggests that this study supports the proposition that excitement "energizes" the organism's existing emotional state. Levinger and Schneider (Sampson, 1971) found that subjects greatly admire those who make risky choices.

One's personal experiences and feelings support the proposition that exciting stimulation is a pleasure all humans seek. Satiation may result, but this seems to cause a lessening of activities which in turn is followed by increased excitement seeking (Berkowitz, 1971).

Expression.--One's need to act in meaningful ways is referred to as expression. Such activities satisfy if they provide for purposeful modes of activating one's potential. A lack of opportunities for self-expression will result in alienation from self and society. An overabundance of directed activities will result in a loss of security and heightened anxiety.

Torrance (1965) found that natural creativity will be stunted by too many social rules and overemphasis on convergent thinking.

Self-expression will be frustrated by oversocialization especially when the expression is accepted only for social purposes (Putney and Putney, 1964).

Creative expression can result from frustrating situations if the conflict is manageable (Hall, 1971). If the perceived frustration may result in feelings of shame or guilt, actions will be of an avoiding nature (Janis, 1971). Managed value conflicts can also be presented in ways that will cause individuals to master novel situations (Pribram, 1971). Abelson (1967) found that the expression required by mutual interaction will result in enhanced motivation.

If the need for self-expression between individuals is overly thwarted, violence is likely (Brown, 1971). The need for expression, threfore, will find an outlet. This behavioral expression takes the form of one's internal and external perception as mediated by the various factors in the environment (Bucher, 1969). If others are observed to express themselves concerning a deeply felt objective, one will be more likely to express himself overtly (Lange, Baker, and Ball, 1969).

In the field of education, Randolph, Howe, and Actherman (1968) have found that expressive participation is enhanced if the individual is recognized as unique. They suggest that such expression is usually in the form of giving direction and control to one's actions. Research by Lichter and Others (1962) shows that the intellectually capable school drop-out is expressing his need for personally meaningful experiences. Torrance (1962, p. 14) says: "Individual administration of problems involving solutions to frustrating situations has shown that the imagination of man's child is inhibited by the tremendous emphasis which has been placed on prevention."

One can judge by another's action and thinking whether or not he is expressing himself as a unique individual or as an instrument of his society. If he perceives himself as being worthwhile as a unique person, he will act in a way that is positively expressed. If he sees himself as a pawn of fate, he will express himself in negative ways. Julian Rotter (1971) utilized the terms "Externals" and "Internals" in describing these differences of expression. The internals, he finds, will cope with society's problems while the externals will drop out.

Conclusions Concerning "Bio-Self-Needs"

Several themes are recurrent in the foregoing review of literature. These central points can be considered as factors with the supporting findings as variables. In this way behavioral commonalities can be viewed so as to provide a framework suitable to planned change and the stating of hypotheses.

The first factor underlying man's behavior relates to the commonly observed fact that a certain amount of consistency, balance, and congruency is always the goal of the individual (White, 1971).

A second factor common to all of the findings indicates that one's need states are constantly in flux. Yet personality studies indicate that within this dynamic state of affairs, the individual's behavior may be fairly predictable (Lazarus, 1969). Behavioral habits and patterns are sustained through the mental process of selectivity (White, 1971) and altered by traumatic experiences such as death of loved ones or sensitivity interaction (Sullivan and Rogers by Sampson, 1971).

A third factor that seems implicit to all of this concerns the proposition that any change in one of man's natural need states will result in alterations in the other needs states. Using a synergistic model it is suggested that a person's state of affairs is a result of all his needs states in interaction with each other. The result is that of a total need state that transcends the totality of the component needs (Wilson and Others, 1969). A change in any one will accordingly result in minor but total change in the being. Thus, for example, a change in self-image will result in a lessening in biased activities towards others (Rubin, 1967).

A final factor concerns the effect of society upon the need states of the individual. The nourishment or starvation of these needs is partially in the hands of society, especially in a planned bureaucratic society. It is proposed that a dynamic interaction takes place between a human and his social conditions. As society molds the individual through nurture and/or frustration, the individuals will react and reconstruct accordingly. Some of these social aspects will be considered next.

Relevant Social Conditions

The human organism, from the moment of conception, is almost completely dependent upon others of the species for survival. How the dependent individual, as he "grows up," will have his needs met is a cultural variable. Variations between cultures suggest that human needs can be met in many and often contrasting ways (Benedict, 1934). It would seem logical that certain ways of meeting human needs would be more effective than others in causing the individual to mature as fully as is possible.

A culture may be studied from many viewpoints. The approach here will be that of viewing the social processes from a personal angle and then from an educational perspective. First, the individual will be followed through his pre-school social relations, and then educational factors will be considered.

Pre-School-Need Fulfillment

During the first year of life the infant experiences certain conditions that are "imprinted" on his memory much as traumatic experiences throughout life are indelibly impressed (Morris, 1969). Morris finds that during this time, attachment to the species takes place. Janov (1970) finds that if the baby has any of his natural needs frustrated, he or she will develop neurotic and anxious tendencies. Janov (1970, p. 31) further states, "The neurotic is trying to convert the world into caring, interested, warm parents."

Americans perpetuate an anxious environment for their children partially because of a belief in individual autonomy and independence (Mead, 1970). Any socially undesirable needs are usually negatively dealt with by parents. The Putneys (1964, p. 48) state, "One of the misguided assumptions of American culture is the notion that an acceptable person does not have unacceptable desires."

The child who receives incongruent messages--incongruent to his natural needs and often incongruent with observed behavior--has trouble developing a favorable self-image. McClelland (1962) finds that parents are often overly helpful to the child attempting to fulfill his needs. The child never gets a chance to want to achieve by himself. Don'ts are a major part of his diet, and Do's are usually of a social nature.

Very early in life one learns how he is expected to act--that is, his role (Bensman and Rosenberg, 1967). This role, which results from personal experience, has been shown to be of a changing and otherwise dynamic nature (Elkins, 1967). Sampson (1971, p. 130) points out that, "Basically, we locate another person in our scheme of expectancies, and thus locate ourselves, once we can define a given situation in terms of the roles of the participants."

Closely related to the learning of acceptable roles is the process of developing loyalty ties and respect for authority. Dawson and Prewitt (1969) find that such ties are well rooted by the time the individual begins school. Elkins (1967), utilizing the thinking of Harry Stack Sullivan, suggests that a cognitive map developed through interaction with significant persons in one's life provides the clue to one's perceptions.

What are the more central tendencies of the American way of rearing children? Bronfenbrenner (1967) analyzed and produced some pertinent information on this subject. He finds that child rearing practices in America have become considerably more permissive recently. Psychological punishment, such as reasoning, appeals to guilt, and withdrawal of affection are the hallmarks of the modern parent. He also finds that girls receive more affection and praise while more achievement demands are made of boys. Finally, Bronfenbrenner finds that the locus of parental authority is shifting from the father to the mother.

Sirjamaki (1967), in analyzing the American family from a cultural viewpoint, notes several outstanding cultural values. Marriage is a dominating life goal, with the criterion of a successful marriage being the personal happiness of the husband and wife. Children are to

be shielded from adult problems. Individual values rather than familial are sought, and sex is condemned until wedlock. Sirjamaki points out that autonomous values are the goals of the first primary group a human knows.

Bandura, Ross and Ross (1967) note that the child is likely to identify with the adult model who rewards his behavior. They cite work by Mower to indicate that secondary reinforcement can set in as the child emulates his model. Competition for reward is considered in the forms of status envy and social power. Elkins (1967) suggests that these strivings for power and recognition are played out in the form of social roles. He also notes that the entire game is played in a setting attended by feelings of anxiety.

The autonomous, competitive nature of the American family makes a neat cultural fit with the values of a capitalistic nation. McClelland and Friedman (1967) found that independence training leads to a higher level of achievement motivation. Bronfenbrenner (1967, p. 392) cites a number of studies that indicate achievement motivation can be attained in this type of family setting, but with the resulting individuals being " . . . more aggressive, tense, domineering, and cruel."

Although many variations of these and related themes do occur in American families, it seems that some conclusions can now be drawn. The family is not of a type that really satisfies a need for belonging because of its competitive nature. Henry (1963) notes that the American child is bought with material goods in an attempt upon the part of the parents to secure recognition. Thus, the child may have his physical needs well attended to, but he tends to lack self-confidence because he is not needed except to bolster the egos of the parents. The Putneys

(1964) suggest that the result is a socially anxious individual who will tend to project these anxieties. Security needs are oversatisfied by anxious parents so that youth must seek excitement in deviant ways (Toch, 1965). Expression needs are provided for social purposes rather than for self-growth (Henry, 1963).

An anxious form of social esteem is developed by the individual who continually meets the achievement demands of his parents. Serenity and self-acceptance which would result from acceptance as unique persons having value simply because of being alive, and from having an opportunity to attempt manipulation and control of their environment is already partially lost. Although some natural curiosity, some belief in self, some sense of belonging, and some ability to express oneself uniquely remains when the child begins school, the average child is already quite anxious and conforming. Janov (1970) points out that a pool of hurts have been accumulated and will affect his behavior throughout his life.

The Development of School Age Children

> The Constitutionality of statutes making the education of children compulsory has been firmly established, for the natural rights of parents to custody and control of their children are subordinate to the power of the state to provide for the education of infant children. Laws providing for the education of children are for the protection of the state itself. . . . The state has the legal right to require that designated studies essential to good citizenship be taught and that nothing be taught which is contrary to public welfare (Drury and Ray, 1967, pp. 34 and 37).

Most states require compulsory education for children between ages of six and sixteen. In a very real sense American children become wards of the state for a large part of their formative years.

An educational system seems to have several major functions. The first is the function of socializing, and the second is to pass on the skills needed to operate in the world of the adult. Quite recently the educational system has added a third major dimension--affective or humanistic education (McHolland, 1969). Along with the addition of the affective dimension, a current trend concerns innovation. Under this label are found techniques and processes such as individualized instruction, scientific process, inquiry learning, problem-solving, and programmed learning.

The question is asked: How well are this nation's schools providing for the needs of its youth? The answer seems to be paradoxical. On the one hand there are sufficiently highly skilled and trained individuals to make this the most productive nation in the world. National levels of technological expertise and academic/scientific expertise indicates that this educational system is producing individuals with a great deal of knowledge. On the other hand many individuals' needs are not being met by education. The alienation and frustration of many American youth is common knowledge. Drug usage, minority discrimination, the rise in psychological and related problems are examples of some of these unmet needs.

It is proposed by some that the schools are so busy socializing that individual needs are not being met. Henry (1963, p. 305) writes:

> School is indeed a training for later life not because it teaches the 3 R's (more or less), but because it instills the essential cultural nightmare fear of failure, envy of success, and absurdity.

Mingle (1970, p. 40), an elementary school principal, satirically states:

> Someday through maturation and strong encouragement from their society, these unpredictable, non-conforming, questing, and seeking youngsters will eventually reach college and become the kind of predictable, conforming, and emniscient students of whom we can all be justly proud.

It is the major thesis of this paper that the balanced fulfillment of the individual's self-needs will result in a person who will act and think in positive ways. How does this notion of self-concept fit into the educational literature?

Educational psychologists are emphatic concerning the individual's need for a strong self-concept. Purkey (1970, p. 18) reports, "The conclusion that the successful student is one who is likely to see himself in essentially positive ways has been verified by a host of studies."

Concerned with inhibiting forces, Gowan, Demas, and Torrence (1967, p. 221) say: "A child who is thinking about what others may think about him, or if his place with them is insecure enough to be of concern to him, cannot be expected to be creative."

Frymier (1968, p. 38) notes, "Highly motivated students tend to have a positive self-concept: 'I count. I am competent. Other people like me. I can do it.'"

Basic needs must be satisfied before the individual can actualize his potentiality. Maslow (1968, p. 25) expresses this principle by stating:

> So far as motivational status is concerned, healthy people have sufficiently gratified their basic needs for safety, belongingness, love, respect, and self-esteem so that they are motivated primarily by trends to self-actualization.

In a sense, Maslow is saying that self-actualizing motivation is an intrinsic quality that can be hindred or blocked by one's

environment. Current educational assessment (Wing, 1968, p. 360) supports and amplifies this:

> Certainly one finds here a suggestion that the original person is forceful, self-assertive, fond of conflict, and even combat, perhaps a bit self-dramatizing or exhibitionist, and with a flair for individualistic and distinctive statement.

If motivation is intrinsic, and a positive self-concept is needed for successful learning, and if youth are alienated and frustrated without the inner strength to cope with life, then an educational change is required. Such a change calls for an educational environment that actively pursues humanistic and creative objectives as a result of a linking of the cognitive and affective learning domains (Fantini and Weinstein, 1968).

Educational theory in the past has usually been directed towards learning that which is of a sensing-thinking nature. Today, learning theory has developed to such an extent that educators are building new conceptual models that are much more comprehensive in scope and depth. Thus, these theories are more useful and valid when planning learning programs.

The learning model on the following page (Figure 1) was developed by Williams (1969, p. 12). He combines the theories of Piaget, Bloom, Krathwohl, and Guilford to clearly illustrate the relationship between the affective and cognitive domains.

A comprehensive learning model has been developed by Mogar (1967), who attempted to correlate the findings of Maslow, Kluckhohn, Erikson, Goldstein, Parsons, Morris, Cantril, and Jung. Mogar's model is based on the conclusion that perceiving and comprehending can take place in four different ways, and that people, because of unique life

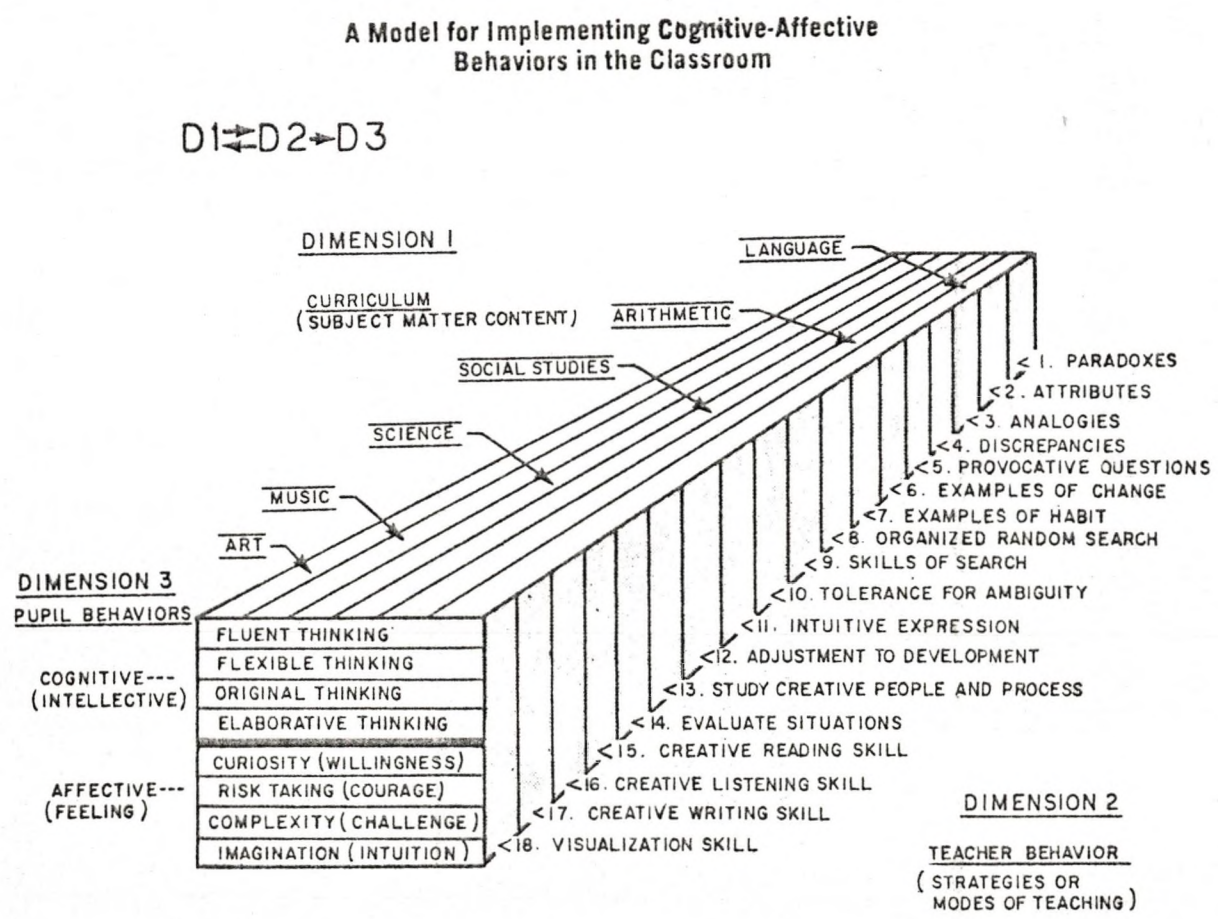

Fig. 1.---A Model for Implementing Cognitive-Affective Behaviors in the Classroom.

styles, usually prefer one mode of learning over the others. Mogar (1967, p. 5) describes these learning modes as follows:

> The preference for Thinking or Feeling is entirely independent of the preference for Sensing or Intuition. Either kind of judgement can be paired with either kind of perception. Thus, four combinations occur:
> 1. Sensing-Thinking ST
> 2. Sensing-Feeling SF
> 3. Intuition-Thinking IT
> 4. Intuition-Feeling IF

Essential to creative learning are educators who have become sensitive to their own feelings and emotions (Beatty, 1969). Administrators must be secure enough to encourage and accept the creativeness of their teachers (Michael, 1968). Teacher attitudes towards students must be positive if youth are to become creative (Gill, 1969). Torrance (1962, p. 109) expresses this need for attitudes of openness and acceptance by writing "Self-esteem is most likely to flourish when others feel pride in one's creativity."

However, educators usually discourage creativity. Just as teachers often discourage creativeness in students (Mack, 1967), so also do administrators often discourage creative teachers. Torrance (1962, p. 204) explains this negative attitude towards creativity: "To be creative is to be unpredictable. This always makes others uneasy. We like to be able to predict because we feel safer, and more in control of things."

Along with a positive attitude towards individual creativity are needed a supportive climate (Woodfin, 1968) and creative educational techniques.

An attempt to combine the foregoing educational findings into an educational model is presented on the following page.

TABLE 2

SOME COMPONENTS OF CONFLUENT EDUCATION

Goals	Process	Techniques	Behavioral Changes
Cognitive	Sensing-Thinking	Inquiry	Achievement
Fluent thinking	Cognition	Searching	Knowledge
Flexible thinking	Memory	Understanding	Logic
Original thinking	Evaluation	Solving	Understanding
Elaborate thinking			
Convergent thinking	Sensing-Feeling	Simulation	Interaction
Divergent thinking	Reflective	Role playing	Freedom of expression
Positive thinking	listening	Gaming	Quality of interaction
Creative imagination	Congruent sending	Identifying	Ability to plan
Synthesizing	Decision making		
		Encounter Group	Appreciation of Others
Affective	Intuition-Thinking	Problem solving	Other concept
Curiosity	Insight	Sensitivity	Cooperation
Complexity	Empathy	Therapy	Leadership
Cooperation	Rapport		
Appreciation		Self-Fulfillment	Self-Concept
Commitment	Intuition-Feeling	Value formation	Self-esteem
Willingness	Creativity	Action	Global esteem
Courage	Inflection	responsibility	Motivation
Enlightenment	Cohesion	Positive goal	Serenity
Sensitivity	Wisdom	setting	
Enjoyment			

Hypotheses: Educators with strong feelings of self-acceptance and morale will develop a philosophy of human nature that results in the use of processes and techniques that will facilitate increased feelings of student self/other esteem and worth. Students with strong feelings of self-acceptance will be most likely to activate most of their potential.

If the family and the schools are only partially fulfilling the needs of the young, the primary group takes on increased importance to them (Toch, 1965). Sampson (1971), in reviewing studies by Asch, Maier and Solem, Milgram, and Blake, notes that although deviance within the primary group is usually restricted, if the initiator of the deviant behavior is respected, the whole group or several members may imitate this behavior. This would suggest that the primary group may have considerably more influence as a socializing agent than it had in the past, and further that the behavior of such groups may be quite deviant.

With the self-needs partially nurtured and partially stunted, the young adult (unless he drops out) becomes a part of the establishment (Roszak, 1969). If he enters the field of education, he becomes a part of that system (Gittell, 1971).

If man is to survive, he must adapt. Adaption involves the rebuilding of ideas and institutions (Szent-Gyorgyi, 1970). The role of education in this process of change is considered next. Education will be analyzed from the viewpoint of the educator and his relationship with the institution of education, educational values, and the dynamics of change.

Educators as Members of an Institution

The major tenet of an institution is probably that of order. Although an ideal need not become subverted to the rule of order, it seems, as Wilson and Others (1969, p. 110 and 47) find, that it does:

> All institutions pass through at least three phases of development: person-orientation, plan-orientation, and position-orientation, in that order. . . . Social systems, then, are composed of interrelated, interlocking and interacting roles which form the basis for ordering social systems by serving to clarify and make meaningful the functions and tasks of individuals comprising the system.

These interlocking roles of the system provide for positions of status (Gibbs, 1964). And, as Reich (1970, p. 12) insightfully notes, "One man's special status, benefits, and privileges depend upon the proper functioning of the rest of the organization; he wants to see everyone else kept in his proper place."

When one who has a position dependent upon the functioning of the institution, he will label as deviant any behavior that he perceives as threatening to his position (Becker, 1963). In this way an institution moves lockstep, whether in tune with the times or not. "For every social system attempts to exercise the most rigid control over the mechanisms by which it can be altered--defining some as legitimate and others as criminal or disloyal" (Slater, 1970, p. 67).

Decisions in the institutional setting have been shown to jibe with these theories. Janis (1971, p. 43), commenting on what he calls "Group Think," states: "The symptoms of group think arise when the members of decision-making groups become motivated to avoid being too harsh in their judgements of their leaders' or their colleague's ideas."

Closely allied to this conception is the notion of face-saving (Brown, 1971). Brown found that the individual will go to great lengths to avoid looking foolish in the eyes of his peers and superiors.

As a member of the educational institution, then, the educator is likely to support status quo rather than change, despite the fact that change is occurring as a result of technology and science. If the children suffer as a result, it will be acceptable and legitimate since the goal is socially justified (Lerner, 1971). Accordingly, it seems in order to consider the matter of educational values next.

Values and Education

> We often justify the procedures of schooling in terms of the knowledge (or skill) ends in the process. No one is quite clear where all this knowledge will lead to in the end; but if we sequence the whole curriculum on this basis we can be sure that it will lead to the next step, and this appears to be a satisfactory outcome for many (MacDonald, 1971, p. 239).

This is a systems approach to education. The values imposed upon the students concern the acceptance of current social norms without question, and the learning of skills in order to compete with computers (Ellul, 1964).

This lack of humanistic values in education resulted when education become well institutionalized and group think set in. Raths, Harmin, and Simon (1966, p. 20) write, "If someone was for something, someone else was against it; and to avoid controversy, schools began to stand for nothing."

Modern social policy is to avoid adventure, challenge and imagination, and instead to work for that which is safe, bland and equal (Reich, 1970). In this light students are viewed by teachers, and teachers are viewed by administrators, as something to use and manipulate (Morgan, 1968). Morgan suggests further that with the scientific emphasis on the provable, that large scale thinking (wisdom) is pushed aside and replaced by experts with "facts." Francis (1969, p. 640) tells us that we commit ourselves to these experts and " . . . we don't know how experts are to relate to each other."

These pressures, social, technological, and institutional, all seem to work against change. Perhaps human change will occur in the form of reaction against perceived frustrations (Francis, 1969).

The Dynamics of Change

Human change is a complicated, little understood process. Its study encompasses many disciplines. Sampson (1971, p. 222) writes: "We know what we know because of who we are, because of where we are, and finally, because of when we are."

This interaction is perceived of as the "Dual-transformation" process (Sampson, 1971, p. 27):

> Transformations by man center on the cognitive or knowledge processes, the means whereby man comes to construct the environment of people, relationships, processes, institutions, and objects, with which he lives. The transformation of man, on the other hand, is concerned with the structure, norms, and rules, the values and ideologies, and the practices of the society into which a man is born and of the groups and organizations in which he spends his life.

This process is ongoing and is often unnoticed because the stated values of the past are retained although new behavioral patterns have developed (King, 1956).

Human change is possible through the alteration of man's genetic make-up or through a change in one or more of the cultural factors (Waddington, 1960). Cultural change, it is believed, comes about as a result of thinking which occurs through a manipulation of symbols (Bronowski, 1965). How, then, can the educational system be changed?

Change Agents in Education

In keeping with the basic propositions of this study, it is now suggested that the only way behavior and attitudes can be changed is if in some way the self-needs of the individuals are satisfied. Change agents accordingly must affect the need for security, belonging, mastery, stimulation, and expression. As Skinner (1971, p. 80) notes:

"We change nothing because we look at it, talk about it or analyze it in a new way."

A change agent, to be effective, must cause an emotional change in the subject before behavior will result (Wilson and Others, 1969). Furthermore, learning theory tells us that if the costs of the action outweigh the anticipated rewards, the person is unlikely to perform the action (Larson and Wasburn, 1969). In other words, the change must feel and look rewarding to the participant if his commitment is to be gained. Such change cannot be imposed upon educators, but instead must evolve from them as a result of careful planning (Fantini, 1971).

A proper climate is probably the most basic need when planning change. Such a climate will provide for security needs, with emotional support, when the educator attempts new techniques or processes (Maslow, 1968). Rogers (1970, p. 84) finds that such a climate is built upon " . . . open and honest communication, of feelings as well as thoughts; recognition of students, faculty, and administration as having basic equality . . ." The atmosphere must be that of support for ongoing change rather than the search for the "right" way (Allen, 1971).

The need for belonging must also be met. Wilson and Others (1969, p. 289) point out: "By involving the entire group in change, individual anxiety is substantially reduced."

Belonging not only reduces threat, but also encourages personal interest and commitment. Sampson (1971, p. 264) writes, " . . . an approach that places people together when they can interact openly and freely potentially ups the level of individual motivation."

If one is to change his behavior, he must believe in his ability to master the situation. Arnstine (1971, p. 28) says: "The genuine

possibility of doing something encourages careful thought; action thus promotes thinking as well as creates power." Brown (1971, p. 230) finds, "Change occurs when frustration is (1) encountered, (2) confronted, (3) experienced, and (4) worked through." Mastery is an essential ingredient in changing one's behavior.

Stimulation is required before action will take place. Such a need has been found to be satisfied best by feelings of curiosity (Peterson, 1970). A positive feeling upon the part of the participant is the key to creative curiosity (Wolff, 1966). A challenge will then trigger behavior change (Purkey, 1970).

Closely related to the fulfillment of all these needs is the need for self-expression. Steinberg (1967, p. 132) found that "When one has confidence and pride in his self-image, he feels free to be and to express himself." Expressing oneself fulfills the individual's need for aggression (Maltz, 1960). Brown (1971, p. 209) found that "Feeling free to express oneself and one's feelings lead to self-confidence."

Attitudes and Behavior in Education

Countless studies may be cited to show that attitudes and values have been changed through methods that did not allow for the self-needs as suggested. However, it is interesting to note that there is considerable agreement amongst social scientists that verbalized attitudes are not positively related to behavior (Bem, 1968; Greenwald, 1968; Janis and Mann, 1968; and Bem, 1971). And, it is behavior that needs to be changed.

"For many of us, there is a terrible visible gap between our use of time and what we claim to cherish" (Raths, Harmin, and Simon, 1966, p. 139). Edward Sampson (1971, p. 327), after a review of research, says, "Several other studies show similar inconsistencies between stated attitudes and actual behavior." Catton (1969, p. 285) notes that " . . . the link between values and actions is problematic . . ."

Researchers in the area of attitude theory and measurement are becoming increasingly aware of this discrepancy. Fishbein (1967, p. 477) states:

> After more than seventy-five years of attitude research, there is still little, if any, consistent evidence supporting the hypothesis that knowledge of an individual's attitude toward some object will allow one to predict the way he will behave with respect to the object.

The matter of behavior change is a complex consideration. One of the most basic and important problems lies in the relationships between verbalized attitudes and actual behavior. If, for example, attitudes result from behavior rather than precede it, then it seems that attempts to modify behavior through manipulation of attitudes will be useless at best and perhaps contain latent dangers. This set of relationships is the subject of the research reported in this paper.

CHAPTER III

DESIGN OF THE STUDY

The purpose of this chapter is to provide an explanation of the procedures used in obtaining and analyzing the data. The following topics are discussed: (1) Design of the Experiment, (2) Sources of Data, (3) Research Population, (4) Instruments Employed and Their Validation, and (5) A Description of the Treatments Which were Applied to the Data.

Design of the Experiment

This study is directly related to a federal Title III project designed basically with the intent of raising the level of student self-concept (O'Shea and Taylor, 1971). The author, as a part-time project coordinator, had, as a part of his job description, the responsibility for the facilitation of the project evaluation. In order to determine a fitting evaluation design the following objectives were extrapolated from the project proposal (O'Shea and Taylor, 1971):

A. (Proposal objective a.) Educators receiving formal Self-Enhancing Education training (Randolph - 30 hour workshop) will develop an increased appreciation of their feelings as measured by the Index of Adjustment and Values administered on a pre (September) and post (April) basis.

B. (Proposal objective b.) Educators receiving form S. E. E. training will further develop their appreciation of humanity and the creative child as measured by pre (September)

and post (April) administration of the Philosophy of Human Nature Scale and the Ideal Child Checklist respectively.

C. Educators' ability to implement the self-enhancing philosophy will be reflected by pre (early October) and post (April) assessment as follows:

1. (Proposal objectives f. and i.) Increased student self-concept as measured by the What Would You Do? (intermediate students), The Class Play (primary students), and the Self Appraisal Inventory (primary and intermediate students) will be evident.
2. (Proposal objectives g. and h.) Increased student learning as measured by the Iowa Tests of Basic Skills will be evident.
3. (Proposal objective c.) Increased student appreciation of the several dimensions of school as measured by the School Sentiment Index will be evident.

Since the project objectives were basically designed to improve the self-concept of the educators and students, the evaluation design was developed to measure the outcomes of the project rather than to attempt an assessment of the extent of SEE technique implementation. Accordingly, educator and student feelings towards self were measured on a pre and post basis. One of the project objectives was directly related to improvement of academic achievement of the students since it was felt that a strong self-concept would be positively correlated with high academic achievement. In order to measure any resulting

change of this nature, the Iowa Tests of Basic Skills were given on a pre and post basis.

The evaluation design also included a basis for information of a diagnostic type. The Ideal Child Checklist was included in an attempt to determine if certain educator attitudes towards students would be predictive of their behavior in the classroom. As a counter part to the Ideal Child Checklist, the School Sentiment Index was administered to the students. It was proposed that changes in teacher behavior and/or perceptions of the ideal child would be reflected by student attitudes towards the school environment. The Philosophy of Human Nature Scale was administered to all educators in order to determine if changes in how one perceived his fellowman would result from the Self Enhancing Education training sessions and/or if these perceptions would, along with feelings towards self and student, provide a reliable indication of trends in educator behavior change.

The hypotheses which are the subject of this study are a direct outgrowth of parts of the project evaluation design. Thus, the author as an individual had only a moderate influence on the design of the evaluation. The objectives and evaluation methods are, however, very congruent with the author's feelings and thinking on the subject.

Sources of Data

The data utilized in this study were obtained from personnel in two Grand Forks School District combination elementary and junior high schools: namely, Carl Ben Eielson and Nathan Twining. Data resulted from evaluation of all professional educators employed in either or both of these two schools and from a sample of students drawn from

both of the schools. Certain data (pertaining to role, background, Self Enhancing Education training, age, sex, marital status, and urban/rural backgrounds, and student enrollment) was accumulated from school records and reports. The technique of pre and post evaluation with the instruments already indicated provided data indicative of behavior and/or attitude change on the part of the sample participants. The pre and post technique also provided data useful in further validation of the assessment instruments.

Research Population

Since the project design (O'Shea and Taylor, 1971) included all educators and students in both schools, a laboratory type control group was not possible. However, control groups appropriate to the objectives and hypotheses of this study were elicited from the entire population. Because the study involved both educators and students, a number of control groups and/or research populations were needed. They were as follows:

Students.--The research sample included students in grades 3 and 5 at the Nathan Twining School and students in grade 4 at Carl Ben Eielson School. These 301 students (grades 3, 4, and 5) took the primary forms of the assessment instruments. Alternate grades from each school were chosen to prevent undue bias. Since student growth in the cognitive and affective areas was to occur as a result of changes in teacher attitudes and behavior, specific student control groups consisted of students of teachers who received formal S. E. E. training and operated in self-contained classrooms.

Educators.--In order to determine over-all educator behavior and/or attitude change, all educators were measured on a pre and post basis. Thus, the educator sample included the 97 professional educators at the two schools with 45 of them composing the staff of Carl Ben Eielson and 52 of them composing the Nathan Twining staff. Specific control groups were formed as follows:

A. Educators receiving formal (Randolph, Howe, and Actherman, 1968) Self-Enhancing Education training (N = 41).

B. Educators new to the school systems and receiving informal (by local staff) S. E. E. training (N = 23).

C. Educators younger than twenty-six years (N = 32) and educators older than twenty-six years (N = 65).

D. Educators of the female sex (N = 73) and of the male sex (N = 24).

E. Educators in the role of teacher aide (N = 15) and of the classroom teacher (N = 71).

F. Educators who are married (N = 81) and educators who are not married (N = 16).

G. Educators from a rural (population less than 2500, N = 29) and educators from an urban background (N = 48).

Instruments Employed and Their Validation

The assessment instruments utilized in this study consisted of those given to students and those given to educators. These measures included two related to attitudes and self-concepts of students, and three related to self-acceptance and attitudes of educators. Since these instruments were used on a group basis only, validity at the

individual level is not considered herein. Basic parameters of the instruments are as outlined below:

Student Assessment

The two instruments chosen for use with students were the Self Appraisal Inventory (primary level), and the School Sentiment Index (primary level). These instruments were secured from the Instructional Objectives Exchange (IOX_a, 1970, and IOX_b, 1970). All instruments were administered on a pre and post basis (early October, 1971, and mid April, 1972) in an attempt to reflect changes due to special training of certain staff members and to provide a basis for the development of reliability data.

Validity of these instruments is a special consideration since they were first published in 1970. These instruments were developed by a group of experts including John D. MacNeil and W. James Popham at the Instructional Objectives Exchange as a result of a contract between this concern and the representatives of seventeen state Title III programs (IOX_a, 1970). The IOX staff surveyed all of the major attitudes toward school and self-concept measures available and, with the assistance of consultants in the field, developed the instruments (IOX_a, 1970). The validity of these instruments is also indicated by their acceptance by the Self-Enhancing Education program evaluators, directors, coordinators, and the Title III evaluation team (Worner, 1971).

The instruments administered in this study, to students, are of a criterion-reference measurement approach in which an objective is formulated, and then measures are devised to assess the objectives' attainment (IOX_a, 1970). In the following discussion of each instrument, the

objective to be measured and reliability data are given. The reliability data are based upon a pre-post statistical analysis as determined from data gathered in this study.

Self Appraisal Inventory.--This instrument was designed to provide a self-report measure as follows:

> Students will evidence positive self concepts by their total or subscale scores on a self report measure (The Self Appraisal Inventory) requiring yes-no responses to a series of statements dealing with self concept along four dimensions: (1) general, (2) family, (3) peer, (4) scholastic (IOX_b, 1970, p. 11).

Test-retest (six months) reliability for the scales follows: (1) general, .29); (2) family, .35; (3) peer, .45; (4) scholastic, .42; (5) composite, .51.

School Sentiment Index.--

> Students will exhibit favorable attitudes toward school in general and toward several dimensions of school (teacher) peer relationships, social structure and climate, (learning) in their responses on the School Sentiment Index, a direct self report instrument requiring students to respond (true/untrue) to statements regarding school and the dimensions of school noted above (IOX_a, 1970, p. 15).

Test-retest (six months) reliability for the scales follows: (1) teacher, .24; (2) peer, .24; (3) social structure and climate, .33; (4) learning, .31; (5) general, .45; (6) composite, .45.

Educator Assessment

The three instruments utilized with the educators involved in this study included the Index of Adjustment and Values (Bills, 1957), the Philosophy of Human Nature Scale (Wrightsman, 1969), and the Ideal Child Checklist (Torrance, 1970). All three of these instruments were administered on a pre and post basis (late August, 1971, and again in late April, 1972). As in the case of the student

instruments, acceptance by the Self Enhancing Education program evaluator, directors, coordinators, and the Title III evaluation team (Worner, 1971) indicates their validity. Further information related to objectives, validity, and reliability for each instrument follows.

Index of Adjustment and Values.--The fact that the IAV was first utilized in 1951 and has been used in numerous studies since (Bills, 1957) lends credibility to the claim for validity. Although only the first half of the test was administered, it is not felt that this would affect the validity unduly as Bills (1957, p. 15) notes:

> It is, therefore, not too surprising to find that the "self" and "others" forms of the IAV are significantly correlated but the low correlations . . . show that the forms are, in a large part, independent measures.

The second half of the test was omitted because as Bills (1957, p. 11) found, " . . . the effects of changing the reference group is a question purely for speculation at the present time." Since the sample included supervisors, team leaders, teachers, and teacher aides, it was felt that the use of the "other" portion of this instrument would invalidate the results.

Bills (1957, p. 12) found the "self" form of the IAV to be reliable at .86 level in Column I, .90 level in Column II, and at the .94 level in Column III as determined by the split-half method.

The reliability of the three subscales included in the "self" portion of this instrument as indicated by data from this study is at the .35 level for the scale indicating how the respondent sees himself (Column I), at the .28 level for the scale indicating how the respondent likes what he sees (Column II), and at the .32 level for the scale indicating how the respondent would like to see himself (Column III).

In a review of the instrument, Beatty (1969, p. 107), Chairman of the ASCD Commission on Assessment of Educational Outcomes, reports:

> Reliability measures report split-half coefficients ranging from +.53 to +.91 and test-retest (six weeks) coefficients from +.83 to +.92. Extensive validation procedures have been applied, and concurrent and construct validities established.

Philosophy of Human Nature Scale.--The validity of this instrument is indicated by the fact that it has been utilized in at least 61 separate studies (Wrightsman and Hearn, 1971). The instrument attempts to measure a person's beliefs about human nature and, specifically, altruism, strength of will and rationality, independence, complexity, and variability. The first four dimensions can be combined into a positive-negative scale and the last two into a multiplexity score (Wrightsman and Satterfield, 1967).

Subscale reliability based on a split-half correlation formula were reported to range from .61 to .91 for a group of undergraduate males, from .60 to .92 for a group of undergraduate females, from .46 to .78 for a group of graduate males, and from .40 to .60 for a group of graduate females (Wrightsman, 1964, p. 746). In the same document Wrightsman also reports test-retest correlations as follows: Trustworthiness at .74, Altruism at .83, Independence at .75, Strength of Will and Rationality at .75, Complexity at .52, Variability at .84, and Positive-Negative at .90. Reliability based on a test-retest correlation applied to data from the sample of this study indicates a subscale range of correlations of .43 to .63. The two major subscales, Multiplexity and Positive-Negative, were found in like manner to be reliable at the .57 level and the .63 level respectively.

Ideal Child Checklist.--Torrance (1971) indicates that this instrument, which consists of 66 student traits or characteristics, has been used with 1,100 teachers in India and with 1,512 teachers in the United States. The Indian sample included " . . . nearly 70 per cent of the total number of teachers in the eleven colleges of education" (Raina, 1971, pp. 303 and 304).

Since such a large number of varied educators have been asked to assess the characteristics of the ideal child through the use of this instrument, validity as indicated by acceptance by the experts is apparent. Prior use has involved the technique of rank ordering of responses (Torrance, 1971). In this study the item responses of the 97 educators involved in the project were factor analyzed in order to determine valid subscales. Three major subscales resulted: (1) the ideal child as a "creative" student, with an internal consistency (Pearson r) level of .67; (2) the ideal child as a "conforming" type with an internal consistency (Pearson r) level of .78; and the ideal child as an "insecure" type with an internal consistency (Pearson r) level of .57. Reliability as indicated by pre-post (seven months) analysis is at the .66 level for the creative subscale, at the .42 level for the conformist subscale, and at the .15 level for the insecure subscale.

Analysis of the Data

Statistical analysis was required in developing test scales and related reliability data, and, to provide data in respect to hypothesized relationships and differences.

Test Scale Development and Reliability Analysis

Since all instruments utilized had scales developed prior to usage, except in the case of the Ideal Child Checklist (Torrance, 1971), only the Ideal Child Checklist data required subscale development. The responses on each of the 66 items by the 97 educators who completed the test were factor analyzed in order to " . . . find clusters of related variables" (Nunnally, 1970, p. 150). Items from the first three clusters were chosen if their internal consistency correlation was found to be over .30, and if the item was not already utilized in another variable. Thus, each of the three scales consists of unique items.

With the test scales developed, an internal consistency reliability score (coefficient alpha) was needed for each subscale (Nunnally, 1970, p. 201). Nunnally points out further that the statistical technique known as item analysis is the accepted way to arrive at coefficient scores of this type. Each of the items in a specific scale was accordingly correlated with the total scale score.

Test-retest reliability for all of the scales and tests utilized in this study was developed by comparing the results of two separate administrations of the tests to the same groups within a seven month period. A Pearson product moment correlation score resulted and is considered as an indication of reliability by some experts and as a "coefficient of stability" by others (Roscoe, 1969, p. 103).

Analysis of Hypothesized Relationships and Differences

Hypotheses 1, 5, 6, and 7 (cf., pp. 2-3) were to provide data relevant to findings that would indicate the amount of correlation

between several dimensions (self-acceptance, creative child as the ideal student, a positive view of mankind, and the belief that mankind is complex and variable) of educator attitudes towards human nature. It was hypothesized that no significant correlation between these variables would be found. The correlation coefficient (Pearson product moment) was determined as the proper measure of a relationship of this nature since linear relationships and variance may be calculated through this procedure (Williams, Harlow, and Houston, 1969, p. 34).

Hypotheses 8, 9, 10, 11, 12, 13, 14, and 15 (cf., pp. 4-5) were to provide data indicating the differences in test scores resulting from a comparison of a given portion of the sample with the rest of the sample. In this way one might determine how the sample educators varied in the way they viewed several dimensions of man (ideal child, attitude towards self, and the positive nature of man) as a result of differences in sex, SEE training, age, role as teachers, role as teacher aides, rural/urban background, and experience in the pilot schools. The t-test for two independent samples was the statistical technique utilized in analyzing these hypotheses since this is the acceptable way of determining " . . . whether the two populations differ significantly on some criterion variable" (Roscoe, 1969, p. 116).

Hypotheses 2, 3, and 4 (cf., p. 3) dealt with the question of predictive relationships between teacher attitudes towards two dimensions of man (self-acceptance, and the creative student as an ideal child), and student attitudes towards themselves, their peers, and their teachers. It was hypothesized that there would be no significant relationship between the attitudes as expressed by teachers in September and the attitudes expressed by their students in April.

The teachers (N = 10) who had students included in the sample and who taught in self-contained classrooms provided the predictive data and their students (N = 245) provided the criterion data. A correlation coefficient (Pearson product moment) provides an acceptable way of predicting such a relationship (Williams, Harlow, and Gab, 1971, pp. 43-46) and was determined accordingly.

With the scales developed, and validity determined, and analysis procedures utilized, specific findings resulted. In the following chapter the findings specifically related to the hypotheses and, a number of related relationships are presented.

CHAPTER IV

FINDINGS

The two basic purposes inherent to this study were as follows: (1) to measure relationships between selected educator attitudes and (2) to measure the relationships between selected teacher and student attitudes. To determine whether any significant relationships did exist, a sample of 97 educators were pre tested and 86 educators and 301 students were post tested (The difference in number resulted from turn-over.) with several affective verbal response measures.

Fifteen hypotheses were stated and data collected and analyzed in an attempt to determine whether they were valid. The analysis of the educator data included a comparison of all of the educator scores on all of the instrument respective scales. Another comparison of this nature was made between test scales, but with the added dimension of separating the educators into specific groups. Finally, the pre test scores of ten educators on all test scales were compared with specific scales on their students.

The results of the statistical analysis are presented in this chapter in three clusters with each hypothesis considered separately. The first cluster of hypotheses are contained in Table 3 on the following page and were stated in respect to perceived relationships between selected educator attitudes. These hypotheses were analyzed

using the pre test (September) data on 97 educator responses on 14 affective test scales.

TABLE 3

HYPOTHESES DEALING WITH EDUCATOR ATTITUDE RELATIONSHIPS

1. There is no significant relationship between educator reports of self-acceptance as measured by the Index of Adjustments and Values (Bills, 1957) and their belief in the creative child as an ideal student as measured by the Ideal Child Checklist (Torrance, 1970).

5. There is no significant relationship between a positive belief in mankind on the part of educators as measured by the Philosophy of Human Nature Scale (Wrightsman, 1967) and their attitude towards the creative student as the ideal child (Ideal Child Checklist).

6. There is no significant relationship between a positive belief in mankind on the part of educators (Philosophy of Human Nature Scale) and a positive attitude towards themselves (Index of Adjustment and Values).

7. There is no significant relationship between educator beliefs concerning human multiplexity (Philosophy of Human Nature Scale) and their attitude towards the creative student as the ideal child (Ideal Child Checklist).

The second cluster of hypotheses are contained in Table 4 on the following page and were stated in respect to perceived relationships in attitudes, indicated by responses to 14 affective test scales, between selected groups of educators. The groups were formed from within the sample of educators, and the comparisons were made using pre test (September) and post test (April) data.

The third cluster of hypotheses are contained in Table 5, page 61. These were stated in respect to perceived relationships between selected attitudes held by ten teachers whose students were in the sample and who taught in self-contained classrooms. These responses as given by the teachers in the pre (September) assessment were

TABLE 4

HYPOTHESES DEALING WITH ATTITUDINAL VARIATIONS RESULTING FROM GROUPING

8. There is no significant difference in the way males view the ideal child (Ideal Child Checklist) as compared to the way females view the ideal child.

9. There is no significant difference in attitude toward self (Index of Adjustment and Values) of educators formally trained in Self Enhancing Education when compared with educators receiving no formal Self Enhancing Education training.

10. There is no significant difference in belief in the positive nature of man (Philosophy of Human Nature Scale) of educators formally trained in Self Enhancing Education when compared with educators receiving no formal Self Enhancing Education training.

11. There is no significant difference in attitude towards the creative student as an ideal child (Ideal Child Checklist) of educators formally trained in Self Enhancing Education when compared with educators receiving no formal Self Enhancing Education training.

12. There is no significant difference between educators under twenty-six years and those over twenty-six years in regard to their attitude towards the creative child as an ideal child (Ideal Child Checklist).

13. There is no significant difference in attitude towards the creative student as the ideal child (Ideal Child Checklist) of educators who are teachers when compared with educators who are aides.

14. There is no significant difference in attitude towards the creative student as the ideal child (Ideal Child Checklist) of educators with a rural background (2,500 population or less) when compared with educators with an urban background (2,500 population or more).

15. There is no significant difference in attitude towards the creative student as the ideal child (Ideal Child Checklist) of educators who are new (first year) to the pilot schools when compared with educators who have spent more than one year in the pilot schools.

correlated with selected attitudes of their students as expressed on several affective test scales in the post assessment (April).

TABLE 5

HYPOTHESES RELATING TEACHING ATTITUDES AND RESULTING STUDENT PERCEPTIONS

2.	There is no significant relationship between teacher reports of self-acceptance (Index of Adjustment and Values) and student attitudes towards self as measured by the Self Appraisal Inventory (IOX_b, 1970).
3.	There is no significant relationship between teacher reports of self-acceptance (Index of Adjustment and Values) and student attitudes towards peers as measured by the School Sentiment Index (IOX_b, 1970).
4.	There is no significant relationship between teacher attitude towards the creative student as an ideal child (Ideal Child Checklist) and student attitudes towards their teachers (School Sentiment Index).

All test scales were hand scored. The scoring keys were constructed according to the directions received with the instrument except in the case of the Ideal Child Checklist. In this test the results of the factor analysis process produced the appropriate scoring procedures.

Relationships Found Between Selected Educator Attitudes

Correlations between selected attitudes of 97 educators towards 14 different aspects of man are the subject of hypotheses 1, 5, 6, and 7. Table 6 on the following page includes means, standard deviations, and correlations for each of the test scales as indicated by the analysis of the data of this study.

TABLE 6

CORRELATIONS AMONG EDUCATORS ATTITUDES (N = 97)

Attitudinal Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Ideal child is conformist	29.54	4.98		.01	-.09	-.02	.20	.02	.06	-.05	.07	.07	.01	.23	.28	.13
2. Ideal child is creative	7.06	6.96			.05	.09	-.08	-.03	-.18	.17	-.12	-.06	.03	-.16	-.10	-.12
3. Ideal child is insecure	- 5.00	3.67				-.07	-.09	-.01	-.07	-.13	.12	-.07	-.02	-.13	-.02	-.03
4. Humans are trustworthy	10.88	10.80					.45	.77	.54	-.10	-.12	.87	-.14	-.03	-.12	-.08
5. Humans' will and rationality	12.22	8.62						.41	.49	-.10	-.25	.69	-.22	.09	.02	-.04
6. Humans are altruistic	8.06	11.69							.59	-.22	-.19	.88	-.25	.09	.06	.06
7. Humans are independent	3.40	10.17								-.24	-.17	.80	-.26	.08	.14	.04
8. Humans are complex	8.53	9.62									.25	-.20	.82	.00	-.04	.05
9. Humans are variable	14.72	8.52										-.22	.75	-.01	.01	.03
10. Humans are positive/negative	34.57	33.67											-.27	.07	.03	.00
11. Humans are multiplex	23.47	14.52												.00	-.02	.06
12. I am this way	144.37	20.60													.82	.79
13. I like the way I am	143.43	22.13														.72
14. I would like to be	163.54	20.11														

(cc of .20+ is significant at the .05 level)

The first hypothesis dealt with the relationship between feelings towards self and attitude towards the creative child as reported by the 97 educators in the study. Table 6 on page 62 indicates the Pearson r correlation at the intersect of row 2 and column 13. The correlation is at the -.10 level which is not significant. The null hypothesis is therefore accepted.

The second hypothesis in this cluster is number 5. The relationship between the 97 educators' beliefs concerning the positive nature of man and their attitude towards the creative child was investigated. As indicated in Table 6, row 2 and column 10, the correlation is at the -.06 level. This level is not significant, and the null hypothesis is retained.

Hypothesis number 6 dealt with the relationship between beliefs concerning the positive nature of man and the attitude towards self held by 97 educators. The correlation found is at the .03 level. Again, the null hypothesis is retained.

The last hypothesis in this cluster, number 7, deals with the amount of relationship between the educator held beliefs concerning the complexity and variability (multiplexity) of man and their attitude towards the creative child. The correlation is at the .03 level which is not significant; the null hypothesis is retained.

When considering all the possible relationships indicated by Table 6, page 62, only the relationships between scales within a given test correlate at a high level. Aside from a low positive correlation between self-acceptance and the conforming student, the rest of the relationships are either not existent or not significant. These four hypotheses were based on the proposition that attitudes expressed by

humans are not consistent. The data tends to offer further support for this proposition.

Group Comparisons of Selected Attitudinal Variables

The second cluster of hypotheses (8, 9, 10, 11, 12, 13, 14, and 15) deal with the differences in selected attitudes held by specific groups within the educator sample. These hypotheses were tested in an attempt to determine if special training in Self Enhancing Education, one's role, one's sex, one's age, one's urban-rural background or experience would significantly affect the way the educator viewed the several dimensions of human nature assessed in this study.

Table 7, page 65, consists of data in respect to the following: (1) groups compared, (2) attitudinal variables utilized as the criterion, (3) t-Test scores resulting from the analysis, (4) number of subjects in each group, (5) means and standard deviation for each group, and (6) the findings relative to significance.

Hypothesis 8 compared males with females relative to attitudes towards the ideal child as a conforming, creative or insecure type. The T values resulting were too low to be significant. The null hypothesis is retained.

Hypothesis number 9 compared educators trained in S. E. E. with all others in the sample relative to their perceptions of self. There was no significant difference in respect to the way these two groups saw themselves, or in the way they liked the perceived self. The group trained in S. E. E. did differ significantly (.05) in respect to the way they desired to be. The S. E. E. trained educators scored lower (m = 162.17) than did the other educators (m = 166.27) in respect to how they would like to be.

TABLE 7

DIFFERENCES IN SELECTED ATTITUDINAL VARIABLES RESULTING FROM GROUP COMPARISONS

Group	Variable	T	N_1	N_2	M_1	M_2	SD_1	SD_2	Sig
Male = 1	Ideal child is conformist	- .42	24	73	29.17	29.66	4.62	5.06	NS
Female = 2	Ideal child is creative	.19	24	73	7.29	6.99	7.50	6.73	NS
	Ideal child is insecure	.70	24	73	- 4.54	- 5.15	3.84	3.57	NS
SEE trained = 1	I am like this	.16	41	45	147.05	146.56	14.42	14.16	NS
Others = 2	I like the way I am	.43	41	45	146.00	144.16	19.88	19.80	NS
	I would like to be	-1.68	41	45	162.17	166.27	11.76	10.65	.05
SEE trained = 1	Man is positive/negative	1.01	41	45	40.63	32.98	38.35	30.74	NS
	Man is multiplex	.50	41	45	22.54	20.87	16.24	14.20	NS
SEE trained = 1	Ideal child is conformist	-1.77	41	45	29.37	31.38	5.58	4.87	.05
Others = 2	Ideal child is creative	1.54	41	45	8.44	6.38	6.37	5.91	NS
	Ideal child is insecure	.75	41	45	- 3.95	- 4.58	3.84	3.84	NS
Over 26 years old = 1	Ideal child is conformist	-2.53	66	31	28.68	31.36	4.94	4.48	.01
Others = 2	Ideal child is creative	- .69	66	31	6.73	7.78	7.26	6.10	NS
	Ideal child is insecure	.83	66	31	- 4.79	- 5.45	3.82	3.21	NS
Teachers = 1	Ideal child is conformist	- .87	72	25	29.28	30.28	5.20	4.08	NS
Others = 2	Ideal child is creative	.68	72	25	7.35	6.24	5.91	9.20	NS
	Ideal child is insecure	.25	72	25	- 4.95	- 5.16	3.85	2.99	NS
Teachers aides = 1	Ideal child is conformist	1.88	15	82	31.73	29.13	3.97	5.01	.05
Others = 2	Ideal child is creative	-2.39	15	82	3.20	7.77	5.32	6.95	.01
	Ideal child is insecure	0.61	15	82	- 4.47	- 5.10	2.31	2.83	NS
Educators with	Ideal child is conformist	1.45	48	49	30.27	28.82	5.22	4.57	NS
urban background = 1	Ideal child is creative	- .55	48	49	6.67	7.45	6.84	6.99	NS
Others = 2	Ideal child is insecure	1.11	48	49	- 4.58	- 5.41	4.31	2.79	NS
Educators new to	Ideal child is conformist	0.51	23	74	30.00	29.39	5.63	4.72	NS
the schools = 1	Ideal child is creative	3.42	23	74	11.17	5.78	8.43	5.82	.01
Others = 2	Ideal child is insecure	- .32	23	74	- 5.22	- 4.93	3.92	3.56	NS

The significance of this finding raised the question: How did these two groups compare prior to S. E. E. training? A non-related t-test was accordingly run using the same subject groupings but utilizing pre test data instead of post test data. It was found that an even greater difference existed in September ($t = 1.94$). Thus, while the null hypothesis is rejected, the data indicates that no significant change resulted in this instance because of S. E. E. training.

Hypothesis 10 compared educators formally trained in S. E. E. in respect to their beliefs about the positive/negative nature of man. Differences as indicated by t scores are not significant. The null hypothesis is retained.

Hypothesis 11 compared educators formally trained in S. E. E. relative to their attitude towards the creative child. There was no significant difference. A related scale, the conforming child is ideal, did register a significant difference. As in the case of the findings relative to hypothesis 8, the educators had a different attitude prior to training. Educators trained S. E. E. had a pre t score of -.59 and a post t score of -1.77. The difference is not significant and the null hypothesis is retained.

Hypothesis 12 compared educators over 26 years old with all others in the sample with attitude towards the creative child being the criterion variable. There was no significant difference on this variable; the null hypothesis was retained. A difference significant at the .01 level was found in the scale reflecting attitude toward the conformist student as an ideal. The older educators had a lower mean (28.68) than the younger educators (31.36).

Hypothesis 13 compared teachers and aides in respect to their attitude towards the creative child. Teacher aides were significantly (.01) less accepting of the creative child and significantly (.05) more accepting of the conforming child. The null hypothesis was rejected.

Hypothesis 14 compared educators from an urban (more than 2,500 population) background with all other educators. In respect to attitude towards the ideal child as a creative, conformist, or insecure type, there was no significant difference. The null hypothesis was retained.

Hypothesis 15, the last of the cluster, compared educators new to the pilot school with all others relative to their attitudes towards the creative child. New educators were significantly (.01) higher in their response towards the creative child. The null hypothesis was therefore rejected.

The only significant differences that were found between groups resulted from attitudes held prior to S. E. E. training. The differences found were in relation to the age and educational role of the subjects.

Relationships Between Selected Educator Attitudes to Selected Student Attitudes

The third and last cluster of hypotheses (2, 3, and 4) was formulated in an attempt to discover the degree of consistency between educator responses and their behavior as perceived by their students. Eight sets of attitudinal scores as attained from pre (September) measurement of ten teachers were correlated with nine selected sets of student responses given by their 245 students in post (April) measurement. The resultant correlations are shown in Table 8 on page 68.

TABLE 8

CORRELATIONS BETWEEN TEACHER ATTITUDES AND STUDENT ATTITUDES
(Teacher N = 10, Student N =245)

Test Variable	Role	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. ICC - conformist	T	28.40	5.54	-.06	.34	.43	-.21	.02	-.12	-.32	-.05	-.33	-.15	-.21	-.24	-.33	-.30	-.22	-.54
2. ICC - creative	T	6.63	3.76		-.25	-.13	-.44	-.83	-.63	-.48	.03	.10	.04	.05	.06	.08	.15	.08	.15
3. ICC - insecure	T	- 4.66	2.56			.82	.40	.29	.18	-.02	-.12	-.15	-.01	-.12	-.13	-.11	-.13	-.10	.06
4. PHN - positive/neg.	T	33.84	30.15				.18	.11	.23	-.20	-.09	-.12	-.01	-.11	-.11	-.12	-.18	-.09	-.07
5. PHN - multiplex	T	24.42	18.38					.12	.65	.09	-.03	.08	.04	-.02	.03	.06	-.08	-.04	.20
6. IAV - I am	T	140.65	6.85						.35	.52	-.01	-.10	-.02	.01	-.04	-.07	-.02	-.03	-.18
7. IAV - I like	T	131.09	28.53							.21	-.00	.06	-.03	.01	.01	.01	-.17	-.07	.02
8. IAV - I wish	T	168.06	8.59								-.13	.05	.03	.00	-.03	-.02	-.05	.01	.15
9. SAI - peers	S	6.54	2.33									.37	.41	.19	.72	.41	.31	.38	.01
10. SAI - family	S	3.36	1.59										.38	.31	.66	.31	.35	.33	.29
11. SAI - school	S	6.67	2.38											.35	.77	.35	.37	.55	.27
12. SAI - general	S	6.47	1.71												.59	.26	.35	.34	.16
13. SAI - composite	S	22.94	5.66													.48	.48	.57	.24
14. SSI - peers	S	3.30	1.28														.45	.65	.27
15. SSI - teacher	S	4.33	1.40															.68	.23
16. SSI - composite	S	18.55	5.15																.22
17. ITDS - composite	S	48.52	14.03																

(cc of .19+ is significant at .05 level)

Hypothesis two states that there will be no significant relationship between teacher self-acceptance and student self-concept. The intersect of column 13 and rows 6, 7, and 8 of Table 8 on page 68 indicates that there is no significant correlation. The null hypothesis is therefore retained.

Hypothesis three states that there will be no significant relationship between teacher self-acceptance and student attitudes towards peers. The intersect of column 14 and rows 6, 7, and 8 of Table 8, page 68, indicates that the correlations are not significant. The null hypothesis is retained.

Hypothesis four dealt with the relationship between the teachers' attitudes towards the creative child and their students' attitudes towards their teachers. The correlation indicated by the intersect of row 2 and column 15 indicates a low but nonsignificant positive relationship. The null hypothesis is retained.

Tables 6, 7, and 8 include additional data that was not required in respect to proving or disproving the hypotheses. It is seen as relevant in respect to the propositions upon which the hypotheses are based. Row 1 which correlates teacher scores on the conformist scale of the ICC with nine sets of scores on students indicates that all the correlations are negative. The highest (significant at the .01 level) relate to student scores on attitude towards school, teacher, and peer scales. The data from Table 6, page 62, indicates (row 1, columns 12, 13, and 14) that high self-acceptance on the part of educators is positively (.05 level) correlated with a preference for the conforming student. Thus, the educator who has high self-acceptance, prefers the conformist

student, and the students react negatively to this teacher. High self-acceptance and high regard for the creative student as reported by the teacher does not result in positive self-concepts, attitudes towards peers, teachers or school, as reported seven months later by the teachers' students.

Chapter V contains a discussion of these findings.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this effort was to identify those factors that would be relevant to teacher behavior modification. The approach taken in Chapter II was to identify some of man's basic needs and then to indicate how his environment nurtures or frustrates this need for self-fulfillment. Using a synergistic-consistency model, it was found that the literature supports the following propositions:

1. One's behavior relates to the degree of fulfillment of his need for security, belonging, mastery, stimulation, and expression.
2. Educational models relevant to this perception of needs are being developed.
3. One's verbalized attitudes may not be a valid indicator of his state of need fulfillment or of his behavior.

The third proposition became the subject of research. Accordingly, an attempt was made to find how educator verbalized perceptions of several (14) dimensions of human nature were internally related, and to determine if these attitudes would be predictive of their classroom behavior as perceived by their students.

A related problem pertained to the identification of variations in educator attitudes resulting from differing social roles (age,

background, sex, educational position, and marital status). Included also were the considerations related to changes in attitudes resulting from special training, Self Enhancing Education (SEE).

In order to assess the attitudinal variables related to the study, 97 educators were asked to respond to the three scales included in the Index of Adjustment and Values, IAV (Bills, 1957), the three scales found in the Ideal Child Checklist, ICC (Torrance, 1970), and the eight scales included in the Philosophy of Human Nature, PHN (Wrightsman, 1967). The 245 students of 10 teachers were assessed in respect to their attitudes towards the several dimensions of school as measured by the School Sentiment Index, SSI (IOX_a, 1970) and towards the several dimensions of self concept as measured by the Self Appraisal Inventory, SAI (IOX_b, 1970).

It was proposed that teacher held attitudes towards given dimensions of human behavior would not correlate highly with their attitudes towards other areas of human nature, thus indicating inconsistency weaknesses within their attitude structures. It was also proposed that stated attitudes would not correlate positively with perceptions held by their students, thus indicating a weak link, if any, between professed attitudes and future behavior.

The data utilized in this study resulted from pre and post assessment of 97 educators and 245 students in grades 3, 4, and 5. The entire population was drawn from the educational staff of two Grand Forks, North Dakota School District Schools and a sample (by grade level) of their students. The schools serve the elementary (K-8) students of the United States Air Force Base personnel and are located 15 miles from Grand Forks.

The construct validity of the instruments used was acceptable in every case, as indicated by the experts in the field. Reliability data

as indicated by the authors of the assessment instruments utilized with the educators ranged from .86 to .94 for the Index of Adjustment and Values (Bills, 1957), and from .52 to .90 for the Philosophy of Human Nature (Wrightsman, 1967). The Ideal Child Checklist (Torrance, 1970) was factor analyzed and resulting reliability data showed a range of .57 to .78.

Test-retest reliability, based on a six month interval, is the only data of this nature available on the School Sentiment Index (IOX_a, 1970) and the Self Appraisal Inventory (IOX_b, 1970); the range was from .24 to .51. Test-retest correlations, based on a seven month interval, on the educator instruments were also found to be low--.15 to .66.

The reliability scores indicated are for instrument subscales and composite scores. The high end of the range is usually for the composite scores. Since the entire set of these instruments are well accepted in the field of affective measurement, the reliability data indicated by Chapter III will be discussed further under the section entitled Conclusions.

The statistical techniques utilized in this study included that of factor analysis in order to determine valid subscales in the ICC and item analysis in order to determine internal consistency of the ICC subscales. A Pearson Product Moment correlation was derived in attempting to find relationships between variables, and a non-related t Test was utilized in attempting to assess differences resulting from "role" factors.

The data resulting from statistical manipulation falls into three basic clusters. The first area is that of relationships found between educator attitudes. Hypotheses 1, 5, 6, and 7 pertain to the variables

of educator self-acceptance, his view of the ideal child as creative or conformist, and his view of man as trustworthy-nontrustworthy and multiplex or simplex. The data based on correlations between these variables is at a non-significant level. The null hypothesis is retained for these four hypotheses.

Hypotheses 8, 9, 10, 11, 12, 13, 14, and 15 dealt with attitudinal variations resulting from specific group membership. Groups were formed on the basis of SEE training, educational role, sex, age, urban/rural background, and experience. Each of these groups was compared to the remaining educators in respect to the attitudinal variables measured by the three assessment instruments utilized in this study. The only significant differences that were found between groups resulted from attitudes held prior to SEE training. The differences found were in relation to the age and educational role of the subjects.

In an attempt to assess the relationship between attitudes and behavior, the attitudes of ten teachers measured at the beginning of the school term were correlated with those held by their 245 students assessed near the end of the school term. Hypotheses 3, 4, and 5 were formulated to show that educator attitudes towards self and the ideal child do not correlate significantly with educator behavior, as indicated by student held attitudes towards self, others, and their teacher. The null hypothesis is retained for these three hypotheses.

Conclusions

An analysis of the data resulting from this study, as presented in tabular form on pages 62, 65, and 68, indicates that the relationship between attitudes and behavior is problematic. The premise that verbally

expressed attitudes are valid indicators of behavior has been found to be incomplete or false. Based upon the data accumulated and analyzed in this study, the following conclusions are deemed logical and valid.

Conclusions Related to Educator Attitude Consistency.

1. Educator held attitudes towards the ideal child as a creative or conforming person are not significantly related to their attitudes regarding human nature. Although a strong correlation between a belief that man is trustworthy and that the ideal child is creative was expected, this correlation was found to be not significant. Since not one of the 24 possible relationships between the educator views on human nature and the same group's attitudes toward the ideal child correlated significantly, it seems logical to conclude that these attitudes are not related to each other. Behavior, if following from these attitudes, would likely be inconsistent and/or contradictory.

2. The attitudes toward self were not found to be significantly related to the attitudes held toward human nature. One would expect. for example, that one who saw himself favorably would also see his fellow man favorably. The correlation between the 24 possible relationships, however, were all non-significant. The way one verbally described himself cannot be held to be consistent with the way he sees his fellow man.

3. The way an educator perceives himself was found to be significantly (.05 level) correlated with his verbalized perception of the ideal child. This finding was true only in the case of two of the 9 possible relationships. In these two relationships the finding seemed contrary to that which would be expected. The finding that a high self-regard correlated positively and significantly with the belief that the

ideal child is of a conformist type is paradoxical to a consistency theory of attitudes. If this finding were applied at face value to a predictive attitudinal model, the conclusion would be that educators who did not believe in themselves would be most accepting of uniqueness and creativity on the part of their students. Since this is not deemed to be a logical conclusion, it is proposed that one's attitudes toward self may be inconsistent with one's attitudes in respect to an ideal child.

4. Taken as a whole the fact that only two of 57 possible attitudinal relationships were found to be significantly correlated, and these in a direction contrary to expectation, the obvious conclusion is that attitudes are not reported consistently. The low correlations resulting from the test-retest (seven month interval) attitudinal assessment on both students and educators with "valid" instruments also indicates a lack of attitudinal consistency. Consistency among attitudinal variables and consistency of measured attitudes over time is not evident, and, therefore, the notion that verbalized attitudes are part of the individual's frame of reference in respect to future behavior is extremely suspect.

Conclusions Related to Data
Resulting from Group Comparisons

1. Educators who receive formal training in Self Enhancing Education techniques were not found to have significantly altered attitudes in respect to any of the 14 assessed traits. Since the stated objectives of this training was to change educator held attitudes, the conclusion is that training designed to alter verbalized beliefs may not be significant in respect to future behavior--the behavior in this case being the response to the assessment instruments.

2. The only significant differences found between groups of educators resulted from comparisons in respect to age, role (teacher compared to aide), and experience in school. Older, more experienced educators prefer the conforming child; aides prefer the conforming child. Age and role are found to be significantly related to attitudes. These findings seem to support the conclusion that attitudes are based on perceived behavioral expectencies or are a result of past experiences.

Conclusions Related to Teacher/
Student Attitudinal Correlations

1. If stated attitudes can be used to predict behavior, then it should follow that observations of one's behavior would correlate positively with the stated attitudes. Teacher held attitudes toward human nature, self, and the student should correlate significantly with attitude toward school, the teacher, self, peers, and family as held by the teacher's students. Since this proposition is based upon the implicit assumption that the student had ample time and opportunity to witness the teacher's behavior, the assessment of the student's attitudes was conducted seven months after the assessment of the teacher attitudes. One significant relationship was found between the student held attitudes and the teacher attitudes toward human nature or self, and this was far below the predictive level. Considering that 27 significant relationships were possible in respect to these traits, it seems logical to conclude that attitudes such as these are not a valid indication of how one intends to act.

2. Significant correlations were found between a positive teacher attitude toward the conforming child and each of the student attitudinal traits assessed. Furthermore, all of these correlations

were negative. Teacher preference for the creative or insecure child was not significantly correlated with the assessed attitudes of their students. Taken at face value, these findings would seem to indicate that teachers who hold attitudes favorable to the conformist students will act in ways that cause their students to "lose faith" in themselves and their significant others. A firm conclusion based on the evidence that was secured from 10 teachers, and which is not consistent with the rest of this study's findings, seems out of order. This phenomena seems to warrant further study.

3. Considering that a higher teacher self-regard correlated significantly with a preference for the conforming child, and that the teacher preference for the conforming child correlated significantly with a negative set of student attitudinal variables, one might perceive a definite link (negative) between attitudes and behavior.

In general, one cannot conclude from this data that it has been proven that attitudes do not precede behavior. It may also be that attitudes result from behavior. Perhaps, the most important inference that can be legitimately made is that a very real problem does exist in respect to attitude/behavior relationships and the scholars' ability to understand and assess this portion of human behavior.

Recommendations

This study does not indicate a definite direction in respect to future research. Neither does the data support any specific directions for the practitioner. The recommendations that follow seem to be reasonable in respect to the inferences drawn from this study's data and the philosophical directions indicated by the synthesis of data contained in the review of literature.

1. An assessment of the feelings dimensions of attitudes may prove to be a fruitful endeavor. It may well be that beliefs are the result of behavior, while felt needs are a cause.

2. Given the present lack of understanding in respect to attitudes and behavior, it would follow that when behavior modification is desired, one would assess goal attainment by measuring behavioral rather than attitudinal change.

3. Since the attitude/behavior link is problematic, one should use techniques proven to change behavior. Reliance on techniques that change knowledge, beliefs, and/or attitudes may result in little or no behavior change.

4. In order to determine whether or not behavior results from one's system of beliefs and attitudes, a more scientific study is needed. Attitudes should be tested against actual behavior rather than against social perceptions of the behavior. A valid control group should be utilized as a "check" against the entry of latent and hidden contingencies.

In short, it is recommended that the assumption of an attitudinal/behavior link be questioned and tested further. Meantime, field practice should entail programs that place less faith in behavior modification through knowledge acquisition and attitude formation, and more emphasis should be placed upon programs aimed directly at behavior change.

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