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GRADUATE COLLEGE

THE EFFECTS OF A SELF CONCEPT ENHANCEMENT PROGRAM ON NINTH GRADE STUDENTS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF EDUCATION

BY

GLADYS MITCHELL SNELL

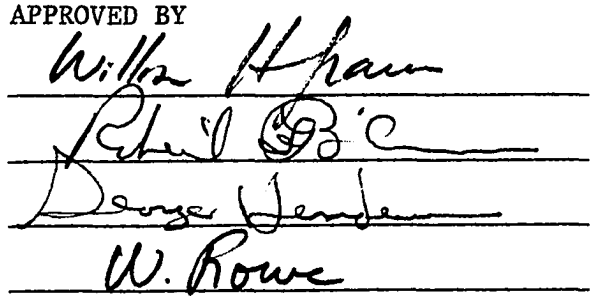
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THE EFFECTS OF A SELF CONCEPT ENHANCEMENT PROGRAM

ON NINTH GRADE STUDENTS

APPROVED BY



DISSERTATION COMMITTEE

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Abstract

The major purpose of the study was to determine if self-concept scores on the Tennessee Self Concept Scale for male and female ninth-grade students (N = 63) could be raised through participation in "Adventures In Self-Discovery". If not, are there groups of children who seem to benefit more from the program than do others? The two-way analysis of variance for testing pretest score differences yielded a gender-linked difference for Row 2. No treatment differences or significant interaction for any of the groups (experimental versus control and male versus female) resulted. Analysis of covariance for testing effects in self-concept gains yielded a significant gender-linked difference for Row 2, Row 3, and Total Positive. No treatment differences or significant interaction appeard. Analysis with an independent samples t test indicated that teacher differentation of students most likely to bemefit was not possible. No reason was found to encourage use of "Adventures In Self-Discovery". Further testing using a larger number of students, teachers, and schools is recommended.

THE EFFECTS OF A SELF-CONCEPT ENHANCEMENT PROGRAM ON NINTH-GRADE STUDENTS

For a number of years attention in the social science field has focused on the construct of self-concept. Though a wealth of research has become available on the importance of self-concept (Fitts, 1972a, 1972b, 1972c; Wylie, 1961, 1974), the antecedents of self-esteem (Coopersmith, 1967), the correlates of self-concept (Thompson, 1972), the measurement of self-concept (Graves, 1972; Purkey, 1968), and on the relationship between self-concept and school achievement (Brookover, 1969; Fitts, 1972b; Purkey, 1970), to a much lesser extent, efforts have been devoted to the study of actual change in one's self feelings. In fact, there exists a paucity of scientific information on the process of change (Pardew & Schilson, 1973, p. 15). However, sufficient evidence is available to indicate that schools should be involved in an effort to improve self-concepts of students (Brookover, La Pere, Hamachek, Thomas, & Erickson, 1965; Coopersmith, 1967; Perkins, 1958; Torrance, 1954; Williams & Coleman, 1968).

The theoretical orientation of this experimental study is found in learning theory as it pertains to the relationships between repetition and meaningful learning (Ausubel, 1963), in the perceptual approach to individual behavior (Combs & Snygg, 1959), and in Flanders' theory of teacher interaction analysis (Flanders, 1963, 1970). For Ausubel, meaningful learning is a process through which meaning is an outcome of learning rather than a characteristic of the content. The learning material must relate nonarbitrarily to relevant concepts in the learner's present cognitive structure and it must have a phenomenological meaning related to a

particular cognitive structure of the learner as it applies to the individual's intellect, ideational content, and experiential background (Combs & Snygg, 1959). The learner possesses a meaningful learning set to relate substantive aspects of new concepts, information, or situations to relevant components of existing cognitive structure. Relatively permanent organizational changes in cognitive structure are produced in response to deliberate initial and successive specific presentations of the learning task.

Within the framework of Flanders' theory of teacher influence, is the belief that verbal statements of a teacher are consistent with nonverbal gestures and therefore are representative of one's total behavior (Flanders, 1963, 1965, 1970). Based on this premise, a system for observation of affective teacher pupil interaction designed to classify teacher talk according to directness of influence was devised. According to the design, a minimum of directness (indirect influence) encourages participation by the student and increases freedom of action, tending to positively reinforce student participation and to afford the opportunity for influential student behavior. Categories demonstrating indirect influence are (a) acceptance and clarification of students' feelings, (b) praise, confirmation, support, and reinforcement of student behavior, (c) acceptance or use of students' ideas, and (d) questioning of students about student verbalizations in an attempt to gain further student expression. Numerous studies have supported the efficacy of indirect teacher influence through increased student spontaneity, initiative, voluntary social contributions, and contributions to problem solving (Anderson, 1939a,

1939b; Anderson & Brewer, 1945; Flanders, 1951), and through increased student achievement (Centra & Rock, 1971; Christensen, 1960; Cogan, 1956; Flanders, 1963; Heil & Washburne, 1962; La Shier, 1966; Mastin, 1963; Perkins, 1965).

Any attempt to change the self-concepts of individuals should be undertaken with an understanding of the nature of the self-consistency which has been in formation from birth. Lecky (1945) theorized that one's appraisal of self is relatively resistent to change because of the individual's paramount need for psychological consistency. Others (Butler, 1970; Combs & Snygg, 1959; Hurlock, 1964; Rogers, 1951) supported Lecky's theory.

A series of studies pertaining to developmental changes in self-concept (Long, Henderson, & Ziller, 1967; Long, Ziller, & Henderson, 1968) revealed that from grade 2 to grade 12 for both sexes the child appeared to gain a higher esteem of self. Whereas Havighurst (1948) in his developmental tasks for children included creation of a wholesome attitude toward oneself as a growing organism, Coopersmith (1967) and Munson (1970) felt that development of self-concept is usually left mainly to chance.

Conditions associated with negative self-concept have been identified as the absence of respectful, accepting, and concerned treatment from significant others in the lives of children, causing the child to think of himself as being inadequate, incapable, unworthy, unwanted, or unable (Coopersmith, 1967; Purkey, 1970). To effect a positive self-concept change the negative conditions must be reversed. Dinkmeyer (1967) urged that one duty of the school is to encourage the child to discover himself; to draw upon his feelings, to face them, and to experience and live

comfortably with them; a challenge which was supported by Otto (1967) who explained encouragement as the process of identification of elements of comparative strength or of helping the child in self-identification of strengths. Glasser (1968) emphasized that the role of the school is to teach children self-worth by giving them the knowledge and tools necessary to succeed in society.

Studies involving enhancement programs for disadvantaged children in schools (those that provide a chance for the child to explore his physical, intellectual, and emotional being) have generally shown negative results (Alexander, 1969; Freyburg, 1967; Herskovitz, 1969; Pearson, 1969). The reason may become clear in the light of studies which indicated the importance of early childhood interaction with significant others (Ausubel & Ausubel, 1963; Butler, 1970; Clark & Clark, 1950; Gordon, 1969; Purkey, 1970; Reissman, 1962). Also, the reported enhancement programs generally lasted for relatively short periods of time. Rather, the duty of the school is to set up continuing long range programs of self-concept enhancement (Dinkmeyer, 1967). Enhancement programs for children who were not socially disadvantaged usually produced overwhelmingly positive results (Beker, 1960; Darrigand & Gum, 1973; Pardew & Schilson, 1973; Pugh, 1969; Purkey, Graves, & Zellner, 1970), whereas no significant changes were reported for a minority of studies (Brown, 1968; Soffen, 1968). Finally, changes in self-concepts of students have been precipitated by individual and group counseling with major support having come from Rogers (1951) and Ohlsen (1970) respectively.

Based on the need for positive self-concepts of students, and on the evidence which indicates that self-concept can be improved, the purpose of

this investigation is to determine if students' self-concepts can be raised through a specific program of exercises within the classroom. The program entitled "Adventures In Self-Discovery" which is based upon the learning components of (a) repetition and concentration of effort, and (b) teacher-pupil interaction (Willingham, 1972), is addressed directly by Ausubel's theory of meaningful learning and by Flanders' teacher-pupil interaction analysis theory. Therefore, improvement of self-concept for those experiencing the program is expected.

The problem of the investigation is: Do students' self-concept scores on the Tennessee Self Concept Scale (TSCS) (Fitts, 1965) rise through exercises based on the "Adventures In Self-Discovery" program? If not, are there groups of children who seem to benefit more from the program than do others. Variables to be controlled with use of the TSCS are age, race, and socioeconomic status (Thompson, 1972).

Specifically, it is hypothesized that there will be a difference between students who experience the "Adventures In Self-Discovery" program and students assigned to a control group and that teachers will be able to differentiate between students who will benefit from the program and those who will not.

Terms to be operationally defined are (a) self-concept and (b) "Adventures In Self-Discovery". In general terms, self-concept is defined as a multifaceted construct which embraces all that a person thinks himself to be. Self-perceptions are largely conceived as a result of the individual's interactions with significant others and as a result of one's own value system within a culture. For the purpose of this investigation, self-concept is defined by four scales within the TSCS Clinical and Research Form.

"Adventures In Self-Discovery" (Willingham, 1972) is an action-oriented classroom program which is used for three class sessions each week for a total of six weeks. The learning concepts which are planned to result in self-discovery are executed by means of viewing posters, listening to tapes while reading the script, writing short exercises, verbalizing for crystallization of thought, sharing through discussion, and receiving positive expression from peers and emphatic attention, recognition, and positive reinforcement from the teacher.

Method

For three sessions each week during a six-week period, ninth-grade boys and girls participated in "Adventures In Self-Discovery," a commercial program designed to improve self-concept of adolescents. Subtests (Row 1, Row 2, and Row 3) and Total Positive from the clinical and research form of the Tennessee Self Concept Scale were marked as pre and post measures by the experimental group to determine whether self-concept scores could be raised after participation in the program. The pre and post measures were also marked by a control group who received no treatment.

Subjects

The sample consisted of an experimental group of 31 students and a control group of 32, all of which were age 15, white, and average in ability. Average ability was defined according to criteria used for assignment to class sections within the total population of approximately 600 ninth-grade English students in a junior high school located in a middle class suburban area, part of a large school district within central Oklahoma. These criteria were: a score of 90 to 110 on Level 4 of the Short Form Test of Academic Aptitude (SFTAA) (Sullivan, 1970) and the recommendation of previous English teachers. Students meeting these criteria were

regularly assigned to classes on a random basis. Two intact classes with each class consisting of both male and female students were randomly assigned to experimental and control groups taught by the same teacher.

Materials

"Adventures In Self-Discovery" (Willingham, 1972) was used as the treatment for the experimental group to attempt to improve self-concept.

The TSCS (Fitts, 1965) was selected as the measure of the dependent variable because of its applicability to junior high school subjects, the multidimensional character of description of the self-concept, adequate standardization, and because of excellent validity and reliability.

An alternate instrument for collection of data, the Nowicki-Strickland Locus of Control scale (Nowicki & Strickland, 1973), was selected to be used in case of absence of significant results. The scale, designed for measuring externality, was chosen because it appears to be a precise measure of locus of control of reinforcement for use with a wide range of children, and because of ease of administration, and adequate validity and reliability.

Establishing teacher cooperation. After securing teacher interest and willingness to participate in teaching the "Adventures In Self-Discovery" program, training sessions were held during which time the cooperating teacher was apprised of the fact that results would become the basis of this study. Sessions were conducted at which time the learning components of the program, and suggestions from the teachers' manual for teaching the components were discussed. Because the experimenter was to assist the

teacher, a roster of specific duties for each was devised.

Establishing student cooperation. One week before beginning the experimental treatment the classroom teacher solicited cooperation of experimental group students by informing them that they had been "selected" to help in a project which would assist teachers in improvement of teaching techniques, and which simultaneously would aid them in gaining knowledge about themselves, about use of self-knowledge for improvement and about effective self-expression. The classroom teacher also mentioned that help of the counselor (the experimenter) would be needed for duties such as recordkeeping, distribution and collection of materials, and operation of the tape recorder which would be an integral part of the learning program.

Administration of pretests. Following the class session in which cooperation of experimental subjects was achieved, the teacher suggested the necessity for marking the pretests as a prerequisite for measurement of learning that might occur.

Students were also informed that the presence of the counselor as administrator of the testing session was necessary because of special training in testing which the counselor had received. In order to gain cooperation of the control group students, the teacher appealed to their sense of helpfulness by stating that information was needed concerning how ninth-grade students feel about themselves. Subsequently, for both groups, pretests were administered with the cooperating teacher serving as an aide.

Administration of the experimental program. While the cooperating teacher was responsible for administration of "Adventures In Self-Discovery", the experimenter distributed and collected materials, operated the tape recorder, and read and returned exercises. The teacher followed

a prescribed routine of instructions for each objective and the experimenter observed the teacher, offering constructive comments when it appeared that a tendency to deviate from the prescribed teaching conditions might exist.

Administration of posttests. Experimental group students were asked to mark the posttest and were told that they would be allowed to see the results if desired upon completion of the scoring process. Control group students were requested to mark the tests as a favor in order to help the teacher to understand more about how ninth-grade students feel about themselves after a six-week period of time. Control group students were also offered both pre- and posttest scores, however, no students from either group asked to see the results.

Results

Data recorded for the experimental and control groups consisted of pre- and posttest totals for Row 1, Row 2, Row 3, and Total Positive scores for the TSCS. All cells were equal (n =16) except for one which had a cell size of 15. This precluded any necessity for examining other assumptions of analysis of variance which were nevertheless checked informally and found to be met satisfactorily (Glass, Peckham, and Sanders, 1972). In the analysis of covariance the assumption of homogeneity of covariance matrices was checked and the matrices were found not to deviate from each other significantly.

Examination of Differences in Pretest Scores

Using the two-way analysis of variance tests were performed on measures of the dependent variable along the following dimensions: experimental

versus control and male versus female, across all four groups for Row 1, Row 2, Row 3, and for Total Positive. Results showed a significant gender-linked difference for Row 2 ($F = 11.01$, $df = 1/59$, $p < .05$). No significant gender-linked difference resulted for Row 1, Row 3, or for Total Positive. No treatment differences resulted for any of the four groups for Row 1, Row 2, Row 3, or Total Positive nor was there significant interaction between gender and treatment for Row 1, Row 2, Row 3, and Total Positive (Table 1).

Insert Table 1 about here

Analysis for Differences Between Pre- and Posttest Scores

To adjust for pretest group differences, the analysis of covariance was used for testing Hypothesis 1 of no difference in TSCS gain scores between students who experienced the "Adventures In Self-Discovery" program and students assigned to a control group. The four posttest variables were separately analyzed using a two way design with the appropriate pretest as a covariate in each analysis. Results showed significant gender-linked differences for Row 2, ($F = 5.80$, $1/58$, $p < .05$, Row 3, ($F = 4.00$, $df = 1/58$, $p < .05$), and Total Positive ($F = 4.57$, $df = 1/58$, $p < .05$ (Table 2).

Insert Table 2 about here

Teacher Differentiation of Students Likely to Succeed

TSCS total positive gain scores for children whom the teacher nominated as likely to benefit most and likely to benefit least from "Adventures In Self-Discovery" were analyzed with an independent samples *t* test. Hypothesis 2 was supported when no significant difference at the .05 level was found ($t = .45$, $df = 18$).

Post Hoc Alternative Analysis

Subsequent to the event of nonsignificant results pertaining to Hypothesis 1, the Nowicki-Strickland Locus of Control scale was used as a dependent measure on children with high versus low TSCS Total Positive gain scores to determine whether high gains could be associated with aspects already present in the child. The independent *t* test for independent samples yielded no significant difference ($t = -.52$, $df = 13$).

Discussion

The study was designed to determine if scores on the TSCS could be raised after students completed the "Adventures In Self-Discovery" program of experiences, and to determine if teachers could predict students most likely and least likely to profit from the experiences. The hypothesis of no difference in TSCS gain scores between students who experienced the program and students assigned to a control group was supported. Failure to reject indicated that for the particular sample of students, no significant gain in TSCS scores was achieved. Results of the study indicated that no reason was found to encourage use of "Adventures In Self-Discovery". However, if one should desire to use it, the program might

first need to be checked thoroughly using a larger number of students, teachers, and schools. Such testing would increase power to detect any possible differences.

Support of Hypothesis 2 which stated that teachers will not be able to differentiate between students who will and who will not benefit from "Adventures In Self-Discovery" indicated that the teacher in this present study was not able to make an accurate prediction.

As an outcome of nonsignificant findings for the main part of this study, the characteristic of locus of control within children with high and low TSCS Total Positive gain scores was examined to determine if internal characteristics of children could be associated with the gains. The conclusion of no difference may lead one to doubt the efficacy of the program for no rationale for it was found in this study. There appears to be no simple answer for the problem of negative self-concept.

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Table 1

Two-Way Analysis Of Variance For Differences On Pretest TSCS Scores

	Gender (A)	Treatment (B)	AxB	Within
Row 1				
MS	33.41	30.56	64.96	196.44
F	.17	.15	.33	
Row 2				
MS	1574.60	120.39	30.83	142.92
F	11.01*	.84	.21	
Row 3				
MS	185.62	.54	11.75	116.35
F	1.59	.00	.10	
Total Positive				
MS	3500.41	47.51	308.18	900.85
F	3.88	.05	.34	

Note. df =1 for gender, treatment, and AxB; df =59 for within.

*$p < .05$.

Table 2

Two-Way Analysis Of Covariance Using TSCS Posttest And Pretest Scores

	Gender (A)	Treatment (B)	AxB	Within
Row 1				
MS	63.37	112.06	43.73	68.42
F	.92	1.63	.63	
Row 2				
MS	511.46	59.22	172.60	88.05
F	5.80*	.67	1.96	
Row 3				
MS	181.18	8.03	15.10	45.30
F	4.00*	.17	.33	
Total Positive				
MS	1603.12	369.97	567.81	350.82
F	4.57*	1.05	1.87	

Note. df = 1 for gender, treatment, and AxB; df = 58 for within.

*$p < .05$.

APPENDIX

PROSPECTUS

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Background of the Study

For a number of years attention in the social science field has focused on the construct of self-concept and numerous studies have been directed toward inquiry into its importance and to the relationships between self-concept and certain variables. Realizing the tremendous propensity toward the subject, and the popularity of self-concept as an object of investigation, Wylie (1961) critically reviewed the research literature in the field of self psychology and published a comprehensive overview of scientific investigations which had been done; a voluminous undertaking which represented some 400 studies which appeared between 1949 and 1958 and which pertained to a wide variety of theories which considered the construct of self-concept to be important. The proliferation of studies continued until Wylie (1974) authored a second overview which presented a revised and extended edition of the topics covered in Wylie (1961). Though no other has reviewed and compiled studies in self-concept to the extent and magnitude of Wylie's undertaking, others have felt the need for bringing together summaries of studies which focused on the relationship between self-concept and particular variables. Among those are Purkey (1970) who reviewed the relationship between self-concept and school achievement and Fitts (1972a, 1972b, 1972c) who reviewed and summarized studies relating self-concept to social behavior, performance, and psychopathology respectively. Others (Fitts, Adams, Radford, Richard, Thomas, B. K., Thomas, M. M., & Thompson, 1971) summarized studies which investigated the relationship between self-concept

and self-actualization while Fitts and Hamner (1969) were concerned with self-concept as it relates to delinquency. The studies previously cited attest to the tremendous interest during recent years which has been aroused toward the importance of positive self-esteem.

Purpose of the Study

In view of the profound relationship between self-concept and behavior, it seems imperative that a major function and obligation of the school is to attempt to arrange a curriculum which includes various activities aimed at changing the self-concept toward an increasingly more positive one. Fitts (1970) compared man's forward strides in science, technology, and new knowledge with his relatively minor progress in human relations and contended that the major problems which confront current American society are 'people' problems. He enumerated social ills which have come about because of man's self defeating behavior which results in incompetence in human relations. Basically he feels that the crux of the problem resides in a low opinion of self, a condition which he feels can be remediated.

There is a wealth of research focusing on ideas such as the importance of self-concept (Wylie, 1961), the antecedents of self-esteem (Coopersmith, 1967), the measurement of self-concept (Graves, 1972), and the correlates of self-concept (Thompson, 1972). A positive example (Coopersmith, 1967) indicated that a young person with high esteem responds acceptably to challenges and irritating conditions, is more likely to achieve success and be enterprizing, and is more active and exploratory. McCandless (1961) presented evidence indicating that a child with an inferior self-concept tends toward more anxiety, defensiveness, and dishonesty, and is less well-adjusted, less popular, and less effective.

Brookover (1969) confirmed that school achievement is favorably affected by a positive self-concept.

In effect, all the previously cited research efforts have pointed to the benefits and the need of positive self-concept. To a much lesser extent, however, have efforts and energy been devoted to the study of actual change in one's self feelings. Pardew and Schilson (1973) commented that there has, in fact, existed a paucity of scientific information on the process of change and that a majority of the existing studies have been made using culturally deprived subjects. However, several investigations have produced evidence that favorable change, though difficult to effect, is possible. Among researchers who have reported favorable self-concept change in school children are (Baty, 1969; Brookover, 1965; Brown, 1967; Coleman, 1969; Coopersmith, 1967; Perkins, 1958; Torrance, 1954; Trickett, 1969; Williams and Coleman, 1968). Sufficient evidence is available to clearly indicate that schools should be involved in an effort to improve self-concepts of students. Glasser (1968) urgently declared, "The role of the school in teaching children self-worth, in giving them the knowledge and tools necessary to succeed in our society, concerns us now" (p. 25).

Based on the need for positive self-concept among students and on evidence previously cited which indicates that self-concept can be improved the purpose of the investigation was to determine if students' self-concepts could be raised through a specific program of exercises within the classroom, a program entitled "Adventures In Self-Discovery."

Statement of the Problem

The specific problem of the investigation was: Do students' self-concept scores on the Tennessee Self Concept Scale (TSCS) rise through

exercises based on the "Adventures In Self-Discovery" program? If not, are there groups of children who seem to benefit more from the program than do others?

Statement of Hypotheses

Ho_1 : There is no difference in TSCS gain scores between students who experienced the "Adventures In Self-Discovery" program and students assigned to a control group.

Ho_2 : Teachers will not be able to differentiate between students who will benefit from the program experiences and those who will not.

Definition of Terms

Self-Concept: In general terms self-concept can be defined as a multifaceted construct which embraces all that a person thinks himself to be. Self perceptions are largely conceived as a result of the individual's interactions with others important to him and as a result of his own value system within a culture. For the purpose of this investigation, self concept was defined by four scales within the TSCS Clinical and Research form.

"Adventures In Self-Discovery Program:" "Adventures in Self-Discovery" (Willingham, 1972) is an action-oriented classroom program which is used for three class sessions each week for a total of six weeks. The three components or learning concepts of the program are repetition, concentration of effort, and group interaction. The learning concepts which are planned to result in self-discovery are executed by means of viewing posters, listening to tapes while reading printed scripts of the tapes from an attractive multicolored 46-page booklet, doing short written activities concerning self and others, crystallization of thought through

verbalization, reception of positive expressions from peers, sharing through discussion, and empathic attention, recognition, and positive reinforcement from the teacher.

Limitations of the Study

The research sample was restricted to sixty-three fifteen-year-old ninth-grade students enrolled in classes with one teacher at Western Oaks Junior High School of the Putnam City School System, Oklahoma City, Oklahoma. Not only were subjects geographically restricted but homogeneity also existed across the variables of age, race, IQ, and socioeconomic status. Therefore, generalizability of results of the study may likewise be limited. A second source of limitation was inherent in the sampling procedure. Though randomness was achieved in assignment of students to all teachers, in selection of the two intact classes to be used in the study and in assignment for experimental and control groups, the cooperating teacher was not randomly selected.

Other limitations were those which were imposed by the characteristics of the TSCS which was used for measurement of self-concept scores. First, information concerning the normative sample (626 persons) which highly varied in sex, race, socioeconomic status, and educational level did not reflect distribution of those variables, a condition which permits speculation concerning comparison between scores of experimental subjects and norms. However, since comparison between subjects' scores and norms was not a major function of this study, little relevant information is lost because of lack of specificity concerning the normative sample. A second weakness lies in the total lack of information concerning internal consistency of scale scores or subscores. The

absence of information may indicate a deficiency reflected in the scores of experimental subjects. What may be more relevant to the study, however, is the problem of multiple scores. Subscores generally are not uncorrelated and to whatever degree independence is lacking, they tend to duplicate each other. For example, intercorrelations of separate scores (Row 1, Row 2, Row 3, and Total P) used in this study range from .80 to .96. Intercorrelations between the row scores and Total P are spuriously high because the Total P score is derived from the various row scores. Principal components analysis or factor analysis was not reported. Therefore, there remains the possibility that fewer dimensions than those reported were tapped by the measures.

Related Literature

Historical Perspectives of Self

Before the beginning of the nineteenth century the consideration of human behavior was almost exclusively a function of philosophers and theologians. Though there was little unanimity among the early Greeks, origins of thinking concerning the self can be traced to them. Aristotle made a distinction between the physical and nonphysical aspects of the human being (Stigen, 1966). The term soul was used to represent the nonphysical aspect though its meaning was never precise or constant. Diggory (1966) suggested that the distinction between soul and body was almost universal during the middle ages of Europe, and though philosophers wrote of it, no problem existed for few questions were raised.

In 1644, Rene Descartes questioned the prevailing thinking about man's nonphysical being. He emphasized that doubt is necessary in order to determine truth where cognitions are concerned. He reasoned that doubting

is an indication of thinking and because one thinks, one exists; a truth which he could not doubt (Balz, 1952). Descartes was the first to deal with any reciprocal relation between the physical and nonphysical and to distinguish mind as knower or subject of knowledge (Haldane, 1905). Purkey (1970) suggested that other philosophers of the Cartesian period added their thoughts about the nature of nonphysical man until terms were used so interchangeably that confusion reigned in regard to the concept of self, confusion which existed into the present century.

The early psychologists of the last half of the nineteenth century (Mach, 1886; Mill, 1865) had views of self which were primarily based on introspection, and they attempted to report on self experiences and self states of consciousness. Wundt (1878) thought that self-awareness results as the individual experiences stimuli or sensation from the body. William James (1890) explained the idea of self-identity as a consequence of time more fully than Mach or Mill. He concluded that personal identity is grounded in the mingling and relationship of dying thoughts with thoughts which are rising at any moment in time, a phenomenon which he called a stream of consciousness. James also was more objective than his predecessors and referred to the "empirical self" as everything that a man can call his own. According to a descending order based on importance of self-esteem, he divided the empirical self into component selves which he designated as "spiritual Self," "material Self," "social Self", and "bodily Self." He felt that the "spiritual Self" is what a person most seems to be including mental abilities, moral sensibility and consciousness, and will. The "material Self" refers to all the possessions owned by the individual or his relation to his possessions while

the social aspects of self relate to people with whom one is involved. There are as many "social selves," according to James, as there are groups whose opinions are valued by the individual. The final component, the "bodily Self", is the distinctively determined primitive object of man's egoistic interests. James used self-feeling and self-regard as synonyms for self-evaluation and felt that one's self-feeling is determined by the ratio of what one feels one can do to what one accomplishes. To him, constant thwarting of accomplishment would eventually cause the individual to give up pretensions, and could result in thoughts and acts of spiritual, social, and bodily suicide. To have one's "I" or sense of accomplishment ignored would be to have one's self negated.

James' voluminous treatise on the notion of self seemed to be the catalyst that incited further interest. Soon Cooley (1902) wrote of the significance of what others think in the formation of one's own self-identity, calling his concept the "looking-glass self" (p. 84) . Ragan and Henderson (1970) explained Cooley's concept as follows:

> Three conditions are necessary for the formation of a self-concept . . . . An individual gets a reflected view of himself from the actions of others toward him. First, the individual must imagine how he is judged by other persons around him.
>
> The second condition for formation of a self-concept is the individual's ability to judge his reflection of self against a set of norms that he and others hold in reference to how he <u>should</u> behave and what characteristics he <u>should</u> have.
>
> Finally, if he meets or exceeds these standards, he is likely to feel proud; if he does not, he is likely to feel ashamed. The social self, therefore, refers to the way a person views himself in relation to others and the way he perceives his role expectations and the roles of others.(pp. 78-79)

Mead (1925) agreed that a person's view of self results from social environment, but he was more precise in terminology. He considered personality to be determined by social-psychological factors.

Another force which made a tremendous impact upon psychological thinking during the first four decades of the twentieth century was the writings of Freud. Basic to Freudian theory were the conceptual elements from which the human personality is derived: the id, the ego, and the superego. Freud conceptualized the basic unconscious and morally unrestrained animal instincts as the id. Opposing the forces within the id is the acquired function of responsibility, the superego, which develops from restrictions concerning right and wrong which are imposed by parents and other significant forces. Because of the morality of the superego and the absence of moral restraints within the id, they were believed to be in constant battle with the resulting behavior coming from the ego, that part of the mind which is logical and rational and which is the mediating force between the two warring factions (Freud, 1949; Hall, 1954). The ego is the Freudian concept that is most related to the self which was discussed by other theorists and which has been previously discussed in this paper. Diggory (1960) explained that when a child learns that gratification of the unpleasure feelings is not always immediate, this knowledge of delay contributes to self-recognition as a separate entity and to recognition of other objects, a process which advances ego development. As the child matures, self-evaluation is determined by the amount of departure of ego from the ego ideal or the superego.

After the turn of the twentieth century another force arose which was to make an amazing impact in the field of behavioral science; a force which

is usually credited to John B. Watson but also included theorists such as Clark Hull, and K. W. Spence. While the Freudian theory placed its major emphasis upon the subjective interpretation of neuroses and on the deep inner urges and drives, behaviorists were strictly objective in their approach, denying subjective influences such as desire, perception, self, I, me, purpose, love, sensation, thinking, and emotion, while placing major emphasis on external and environmental stimuli and on the stimulus-response theory of learning as the only explanation of human behavior. Watson (1925) defined personality as:

> the sum of activities that can be discovered by actual observation of behavior over a long enough time to give reliable information . . . . In other words, personality is but the end product of our habit systems. (p. 220)

In essence, according to the early behaviorists, no self existed. Later behaviorists (Hull, 1930, 1937; Tolman, 1932) introduced objective definitions of purpose, thinking, expectancy, intelligence, symbolic process, and insight. Thus, old psychological concepts were defined in objective terms.

The advance of gestalt psychology in Europe paralleled in time the movement of behaviorism in America. Its advocates presented a system which credited both environment and self as determiners of behavior. Koffka (1935) spoke of the ego as being the literal center of the space coordinate system of a person's behavioral field and that some part of the body or the whole body is always related to it. One is aware of the ego upon realization that the "I" is doing or thinking or seeing. Though the body boundaries cannot change, the ego boundaries fluctuate and the changing process itself identifies what is non-ego, resulting in inter-

action between the behavioral environment and the ego. Diggory (1966) explained that "The core of the ego is the self which represents acts corresponding to genuine need" (p. 52) . The gestalt psychologists also raised the issue of the nature of human motivation. With emphasis on the whole person they made sure that consideration of wholeness was accomplished through examination of the one basic motive that is the driving force within the individual. A major believer in the single motivation theory was Goldstein (1939) who stated, "We have to assume only one drive, the drive of self actualization" (p. 17). With his statement the stage seemed to be set for modern-day self pshchologists.

Early personality theorists (Allport, 1937; Murphy, 1947; Murray, 1938) were also concerned with the problem of motivation. Allport's eclectic approach (1973) suggested that, as a means to studying personality, a sensible approach would be to start with individual behavior as a source for hunches, to then seek generalizations as previously, and finally, to return to the individual not for mechanical application of laws, but for a second look in order that the final assessment can be fuller and more accurate. Murray, though psychodynamically oriented, developed an elaborate set of concepts to represent the striving of the individual. As did Freud, he recognized the ego not only as an inhibitor and repressor of certain impulses and motives, but in addition he assigned unto it the duty of scheduling, arranging, and controlling the manner in which other motives are to appear. A person's adjustment is in large measure, a function of the strength of his ego. Akin to the superego is the ego-ideal which represents the personal ambitions toward which the individual strives. Murphy's biosocial approach to personality stressed the

formation of self as a continuous process of transfer between self perception and the perception of others.

The final force to be considered is comprised of individuals who Maslow (1968) described as constituting the Third Force. Among those are Maslow, Rogers, Combs, and others whose energies were directed toward humanistic psychology. Basic to Maslow's theory (1954) was the belief that an individual is motivated by a prepotent hierarchy of needs which are unchanging and instinctual in nature. Among these are the self-esteem needs and the need for self-actualization or for becoming everything that a person is capable of becoming. Somewhere along a continuum between the gestalt psychologists and pure phenomenology lies Roger's theory of personality which relies heavily upon the concept of self and which is phenomenological in nature (Rogers, 1951). The optimal personality achieves congruence between the individual's phenomenal experiential field and the self-structure. Rogers defined self as being a portion of the phenomenal field that gradually becomes differentiated. The differentiated self refers to the perceptions which characterize the "I" and "me", and perceptions of the relationships between the "I" and "me" and others, along with the values which one has attached to these perceptions. As a child experiences relationships with others, he begins to take on values of those individuals and consequently ceases to be true to his own self. Therein lies the incongruence toward which the work of therapy is aimed. Combs and others (Snygg & Combs, 1949) who were concerned with perceptual phenomenology felt that basic to individual behavior is the personal frame of reference or phenomenal self. Behavior is governed by the individual's unique perceptions of himself and his world, and the meanings they hold for

him. The phenomenal field is the person's universe as it appears to him at any moment. It is from this field that one perceives one's own reality, the phenomenal self from which the self-concept is achieved and which was defined as "those parts of the phenomenal field which the individual has differentiated as definite and fairly stable characteristics of himself" (p. 112) . Their conception of the phenomenal self was later broadened to include various self-concepts rather than a single concept of self (Combs & Snygg, 1959).

According to Gordon and Combs (1958) the fifth decade was accompanied by a rapid growth of interest in the self and the phenomenological point of view. Due to imprecision in definition of both self and perception there existed resulting confusion in communication and research but the importance of the central construct of self did not diminish. Perceptual phenomenologists continue to feel that the one motivating drive behind all behavior of an individual is his desire to maintain or to enhance his feelings of self.

Self-Concept Defined

Though definition and development of self-concept are inextricably bound, to some extent the construct will be defined apart from the idea of historical development. For the sake of clarity a distinction between the meaning of self and self-concept is necessary. While self refers to the essence of existence as known to the person, self-concept is a construct which refers to the beliefs which an individual holds about himself, conclusions of which he may or may not be aware, and which concern his patterns of reactions to life situations (Jourard, 1963). Fitts and Hamner (1969) theorized that each person's self-concept provides a kind of core

set of data which enables others to predict and understand his behavior in some measure.

Self-concept can be conceived globally or as a unitary construct. Coller and Guthrie (Pardew & Schilson, 1973) believed that self-concept should be conceptualized as an overall generic term embracing several aspects including self-evaluation and self-description. The aspect of self-evaluation contains subcomponents of self-appraisal and self-regard while self-image and self-awareness constitute the aspect of self-description. Other aspects, according to Coller, are the phenomenal and the nonphenomenal. Coller believed that self-concept is not unitary; rather, it should be considered in respect to its various dimensions.

Dinkmeyer, a prominent contributor to self-concept theory related to elementary school children (Dinkmeyer, 1967) stated that within the growth process self-concept tends to shape new experiences to conform to patterns which have already been established in an attempt to maintain consistency of the self-concept whether it is or is not based on accurate assumptions. Purkey (1970) described the self-concept developmental process as experience that is changeable and plastic and which possesses capacity for growth and actualization. He further stated that the main forces shaping the self-concept result from the expectations of others, primarily in the home and school.

Referring to the phenomenal self as it was explained by Combs and Snygg (1959), Fitts et al. (1971) defined self-concept as "The sum total of all these awarenesses or perceptions is his image of himself" (p.14). They identified three subselves which are internal in frame of reference. "These are: self as object (Identity Self); self as doer (Behavioral

Self); and self as observer and judge (Judging Self)" (p. 14). Other subselves, external in frame of reference, are: Physical Self, Moral-Ethical Self, Personal Self, Family Self, and Social Self. On the basis of the eight subselves rests the construction of the TSCS (Fitts, 1965), a measure of self-concept which was employed in collection of research data for this study.

Subsumed under the construct of self-concept is self-esteem which bears relation to the subself previously identified as the Judging Self. Branden (1969) attributed essentially the same meaning to self-esteem. He described it as an unverbalized feeling, an estimate which one places on himself; while Coopersmith (1967) considered the construct to refer to evaluative attitudes toward oneself. Self-esteem differs from self-concept in that it generally refers only to the evaluative aspect of self while self-concept is a term which embraces the various aspects of and beliefs about the self.

In summary, self-concept can be defined in general terms as a multi-facted construct which embraces all that a person thinks himself to be.

Developmental Aspects of Self-Concept Change

Any attempt to change the self-concept of individuals should be undertaken with an understanding of the nature of the self-consistency which has been in the process of formation from birth to that point in time. Lecky (1945) recognized this consistency and demonstrated that one's appraisal of self is relatively resistant to change because the individual's need for psychological consistency is of paramount importance. Supporting Lecky's theory were Combs and Snygg (1959) who proposed that the primary force of motivation is the individual's effort to maintain and enhance his self-con-

cept. They believed that every behavior is directed toward that goal. Rogers (1951) also emphasized the idea of self-consistency as did Coopersmith (1967). Hurlock (1964) stated that as a child grows older the self-concept stabilizes accordingly and thus becomes increasingly more difficult to change. Commenting on the consistency of self-concept and on the self-view which a child has developed by age three, Butler (1970) offered a quieting note when she remarked:

> Life is not over at age three, but the general view toward the world and toward oneself is always present. Possibilities for change are always present, but the longer a behavior persists the more difficult it is to change. (p. 107).

Several authors have offered suggestions concerning the conditions necessary in order that change in self-concept can be effected. Using nonverbal techniques in securing information, a series of studies concerning developmental changes in self-concept during middle childhood (Long, Henderson, & Ziller, 1967) and during adolescence (Long, Ziller, & Henderson, 1968) revealed that for both sexes changes from the first to the second grade were discontinuous and that from second grade through grade twelve the child appears to gain a higher esteem of self. Through research on stability and predictability of children's self-concept, Trickett (1969) found that changes in self-concept occur between the ages of six and ten, and she concluded that the changes may in some measure be due to clues which the lower grade child receives from his referents. Her findings verified those of Long et al., (1967) though her developmental study did not include subjects beyond the fifth grade. In his developmental tasks for children of this age, Havighurst (1948) included creation of a wholesome attitude toward oneself as a growing organism. Coopersmith (1967) and Munson (1970) felt that development of self-concept is

left mainly to chance, a condition that seems pitiable, in the light of information that has been shed on the subject of self development. Jorgensen and Howell (1969) theorized that the self- and ideal self-concepts may be a reflection of the compatability of the id, ego, and superego processes of the individual. They hypothesized that with the increasing importance of the superego processes during the period of latency, there should be a greater discrepancy between self- and ideal self-ratings from the beginning of latency (about age 5) until puberty at age 12 or 13 and that the discrepancy should decrease from ages 13 to 18. The first hypothesis was supported in the case of males and the second held for both sexes. Their conclusions would seem to indicate that planned change in self-concept might well be effected during the latency period.

Another investigation (Bachman, Secord, & Pierce, 1963) sought the relationship between change in self-concept and perceived congruency among significant others. Based on interpersonal congruency theory, they hypothesized that as the perceived number of congruent significant others increased, resistance to change likewise would increase. Their prediction proved to be sound, and the results indicated the need of early attempts to improve self-concept before children actively structure relations with others so as to achieve and maintain congruency.

Closely related to the developmental aspects is a knowledge of the conditions necessary in order for change in self-concept to be effected. Coopersmith (1967) indicated that of paramount importance is respectful, accepting, and concerned treatment from significant others in the lives of children, as well as a multitude of successful background experiences which are interpreted according to the individual's own values and aspirations.

Also, he felt that there is a need for the child to develop an appropriate method of responding to devaluation. Purkey (1970) suggested:

> As a general rule, we can say that any behavior of significant people that causes a young child to think ill of himself, to feel inadequate, incapable, unworthy, unwanted, unloved, or unable, is crippling to the self. (p. 33)

Therefore, to effect a positive self-concept change, the negative conditions mentioned by Purkey (1970) must be reversed. Dinkmeyer (1967) urged that the child must be encouraged to discover himself, to draw upon his feelings; to face them, and to experience and live comfortably with them. He believed this to be the duty of the school. Otto (1967) explained encouragement as the process of identification of elements of comparative strength in the individual or of helping him to identify his own strengths.

With the background discussion of the consistency of self-concept, and of the developmental aspects and the conditions necessary for change, actual attempts at change in self-concept within various school settings will be discussed.

Changes Attempted in School Settings

Schools have employed various methods which attempted to effect change in self-concept. Among those are enhancement programs of various types including special kinds of classes and courses. Pardew and Schilson (1970) defined a self-concept enhancement program as one that provides a chance for the child to explore his physical, intellectual, and emotional being. One criticism of self-enhancement programs is that they have been concerned mainly with some form of compensatory education for subjects in disadvantaged areas. Though Coopersmith (1970) found a weak relation

between social class and self-concept,Butler (1970) suggested that the relation is not clear cut. Supporting this position were Deutsch and Deutsch (1967) who felt that advantaged children are excluded from needed programs, and Purkey (1970) who emphasized that the causes of negative self-concepts are psychological rather than economic.

A comprehensive study of compensatory education was conducted by Crovetto, Fisher, and Boudreaux (Miller, 1973) who tested the effectiveness of the Model Kindergarten Experimental Program for deprived children with the main focus on language development, visual-motor perception, and development of positive self-image. Significant gains were found on all three assessments, and the program provided a guide for self-concept improvement with suggestions and guiding attitudes which could be incorporated in other self-concept programs. The study was especially significant in that, unlike many other studies, it provided a definite assessment of self-concept. Using fourth, fifth, and sixth grade subjects who were classified as socially disadvantaged, Coleman (1969) was able to reduce negative self-concept responses as a result of a planned program of teacher-pupil relationships with heavy emphasis on mutual involvement and interaction.

Unlike the positive changes in self-concept, other studies have revealed negative findings. Herskovitz (1969) reported no appreciable gains after attempting to determine whether a group of disadvantaged high school youth who had been identified as probable dropouts would increase positive self-feelings after participation in an educational vocational program. Pearson (1969) had students who participated in an Upward Bound Program conducted on a college campus for a period of eight weeks, a

project which was designed to foster pupil growth in areas of academic achievement related to communication skills, self-concepts, critical thinking, study skills, school attendance, and dropouts. Growth could not be determined. Others also failed to achieve significant gains in attempts to increase self-concept among disadvantaged children. Freyburg (1967) reported on a "buddy" system wherein average or intellectually gifted fifth grade children were paired with under-achieving second grade children for the purpose of effecting changes in self-concept, attitudes and behavior, and achievement of the second grade children. Freyburg reasoned that both fifth grade models and second grade underachievers would benefit from the experience, but contrary to his reasoning, self-concepts of the group as a whole were not affected. Another experiment which involved boys ranging in age from 12 to 15 years from low income families was completed by Alexander (1969) who investigated the effects of a six weeks camping experience on self-concept. Again, there was no significant positive gain.

While the literature reviewed (Dinkmeyer, 1967; Henderson and Bibens, 1970; Munson, 1970; Taba, 1953) definitely indicated the importance of the role of the school in self-concept development of the disadvantaged child, the question arises concerning the reason why significant findings were not obtained in studies which dealt with attempts to enhance self-concepts among socially disadvantaged children. This question may possibly be answered in view of studies which indicated the importance of early childhood interaction with significant others in development of self concept (Ausubel and Ausubel, 1963; Butler, 1970; Clark and Clark, 1950; Gordon, 1969; Purkey, 1970; Reissman, 1962). The fact exists that the research

for the majority of the studies being questioned covered relatively short periods of time generally ranging from six weeks to six months. It therefore is not surprising to learn of negative findings. Rather, it becomes the duty of the school to set up continuing, long range programs of self-concept enhancement (Dinkmeyer, 1967).

Other enhancement programs dealt with subjects who were not classed as being socially disadvantaged. Realizing the need for preschool education to concentrate directly on positive self-concept development of all children regardless of socioeconomic level, Pardew and Schilson (1973) demonstrated that developmental guidance activities which focus on self-concept enhancement could be presented in an organized preschool program to middle-class children. The population sample of 52 consisted of children from Air Force base families, thus representing a heterogeneous group of four-year olds. Their program was adapted from several developmental guidance programs, and was presented in 33 sessions over an eleven week period. The sources from which their program was drawn were reviewed in Pardew and Schilson (1973), p. 21). Results indicated that the experimental group showed more significant changes in self-concept scores than the control group which was used to check intervening variables. Therefore, they considered that the improvement could be contributed to the enhancement program. Another study (Darrigand and Gum, 1973) tested the effectiveness of two types of developmental guidance. The first type consisted of short units of planned experiences calculated to foster growth in areas of eight developmental tasks defined by Havighurst (1948). The other approach to developmental guidance emphasized definite involvement by children in developing their own personal effectiveness,

self-confidence, and in gaining understanding of human interaction with emphasis on causes and effects. Children in the second study were personally involved to a greater extent than those in the first. Analysis showed that each of the experimental groups improved significantly compared to the control group, and that the experimental procedures were equally effective. An investigation exploring the impact of an innovative, teamteaching, completely ungraded elementary school on the professed self-esteem of pupils in Florida (Purkey, Graves, and Zellner, 1970) revealed that the pupils in the innovative school evidenced greater self-esteem than pupils enrolled in a traditionally oriented comparison school. Also, it was hypothesized that as the grade level increased the differences in self-esteem between the pupils in the two schools would increase. With the confirmation of both hypotheses it seems logical that an innovative school that is "humanistically" oriented with prolonged exposure of elementary pupils to innovative school practices may be desirable in improvement of self-concept of pupils. Members of 17 sixth-grade Long Island public school classes, predominantly from middle and lower-middle class surburan homes served as subjects in an investigation designed to test the impact of a school camping program of one week duration on social and emotional growth of students (Beker, 1960). It was hypothesized that social and emotional growth could be stimulated by a social climate that made it possible for students to exert initiative and self-determination within a setting of social awareness and clearly defined limits under the direction of understanding but not constrictive adults. A marked positive impact on students' self-concepts was indicated according to comparison with a control group. It would seem profitable to identify the specific

elements in the school camping experience and climate that tended to promote growth in self-concept in students, with the idea of increasing the potency of a variety of educational settings. Pugh (1969) compared the changes over a period of four months in self-concepts of high school students enrolled in vocational curricula with high school students enrolled in nonvocational curricula but who had expressed an interest in attending a vocational school. The findings concluded that the two groups differed in changes in self-concepts with the vocational group experiencing more positive changes. Another study of a nontraditional high school program was concerned with the influence of Outward Bound school experience on the self-concept of 272 adolescent boys (Wetmore, 1972). The 26-day-long Outward Bound course consisting of rock climbing, survival swimming, first aid, sea expeditions, and rescue operations effected a distinct positive change in self-concept. Analysis verified that none of the changes were related to differences in age, socioeconomic status, educational level, race, residential locale, sports background, and specific courses within the total program. Working with 392 college students as subjects, Furr (1969) sought to determine whether college students participating in a business speaking course would show a greater positive change in self-concept than students in two groups who had never had formal training in any kind of speech class. A significant positive difference appeared in the mean change between the experimental group and each of the control groups. Another study using college students as subjects was concluded by Young (1970) who investigated the effects of a three day laboratory training period on the self-concepts, philosophies of human nature, and perceptions of group behavior of prospective teachers. Though

significance was achieved in certain areas of self-concept change and philosophies of human nature, it was determined that more direct learning models such as mini courses, video tape labs, and behavior analysis should be examined as possible inputs in changing the individual's attitudes and self-perceptions in the framework of a human development program. Within the total scope of the review of related literature Maloney's study (1969) of undergraduate college students has been found to be the most nearly related to the present study. One purpose was to assess the effects of a seminar using a commercial program of achievement motivation with positive change in self-concept as a goal. Sizeable and decisive significant changes were effected in the desired direction. The effectiveness of the program was designed to change human behavior through the process of identifying strengths, defining goals, and conditioning constructive behavior. Its purpose basically was the same as that of the "Adventures In Self Discovery" program upon which the present study was based and which was previously discussed. The primary difference lies in the age of the subjects.

Other studies using subjects who were not economically or socially deprived resulted in less positive conclusions. Brown (1968) explored changes in students' self-concepts and academic achievement following a short summer enrichment program sponsored by Phillips Exter Academy. The sample consisted of 73 boys and girls who were above average in intelligence and achievement as measured by standardized tests and actual school achievement. There were no changes in the girls' self-concepts or in academic achievement. The boys experienced slight negative changes in self-concepts and a significant major negative change in achievement. It

was concluded that the enrichment program which focused primarily on academic studies was deficient in effecting self-concept improvement because of the personality restructuring necessary to effect positive self-concept changes. A final negative result found in a study which used subjects who were not disadvantaged socially or educationally, was made by Soffen (1968) who investigated whether the self-concept of college students in a teacher education program could be improved in an educational psychology class by means of activities intended to increase self-knowledge and self-acceptance. Results indicated no significant improvement in self-concept. Soffen felt that her experiment was weak because she failed to delineate specific targets within the variables of the self-concept.

The theory that a child's self-concept is affected by the interpersonal setting in which he is placed has been advocated by some who were seriously interested in the theory of self-development (Cooley, 1902; Mead, 1925; Rogers; 1951). The influence of relations with significant others on a child's self-feelings have been often reported (Ausubel, 1954; Dinkmeyer, 1969; Jourard & Remy, 1955; Purkey, 1970), giving support to the theorists previously cited. As an example, Perkins (1958), in a study of factors which might influence childrens' self-concepts, found that the training of teachers in child study helped them to promote healthy personality growth in children, defined in terms of self- ideal self-congruency. With the knowledge of the impact of the school setting on self-concept, Davidson and Lang (1960) sought to investigate how the child perceives his teacher's feelings toward him and how his perception, irrespective of its accuracy, relates to his self-concept, school achievement, and classroom behavior. They found that a child's self appraisal is significantly

related to his perception of the teacher's feelings, an outcome which they expected in view of the fact that one role of the elementary teacher is that of a parent substitute. Though the relationship between children's perceptions of their teachers' feelings toward them and their self-concepts is not necessarily a causal one, it becomes the task of the school to secure teachers with warmth and strength in human relationships in an effort toward promoting more positive self-concepts among children. Though previously cited, a study by Perkins (1958) needs to be reviewed in the light of its findings as they relate to interpersonal skills. Investigating changes in children's self-concepts, Perkins found that (a) the self and ideal self of children become significantly congruent through time, (b) the self- ideal self-congruencies of girls are usually greater than those of boys, (c) children whose teachers have completed child study show significantly greater self- ideal self-congruency than do those whose teachers have not benefitted from child study, and (d) there is no significant relationship between changes in children's self-ideal self-congruency and changes in school environment and changes in acceptance by peers. An analysis of Perkin's conclusions would indicate that a maturational change in self-concept can be expected as the child grows older, and that the greater congruencies of girls as contrasted with boys may be related to the girls' earlier maturity and to the influence of a disproportionate number of female teachers. A final interpretation pertains to self- ideal self-congruencies of children whose teachers have participated in child study; as the amount of child study increases, so does positive self-concept, evidence that children are positively benefitted. Reasoning that some teachers may be more

therapeutic than others, and using a sample of 47 fifth- and sixth-grade teachers and a total of 1,211 students, McCallon (1966) sought to determine the relationship of teacher characteristics to change in congruency of children's perceptions of self and ideal self. The trend toward self-ideal self-congruency by the children in McCallon's study corroborated the findings of Perkins (1958). Testing thirteen teacher characteristics, the only significant predictor of change when all the other variables were held constant was favorableness of perception of student considered the least desirable to teach. A final study demonstrating that self-concept change is a function of the reaction of significant others (Ludwig & Maehr, 1967) employed seventh- and eighth-grade boys who performed simple physical tasks in the presence of a physical development "expert" who voiced favorable or unfavorable statements to subjects, irrespective of performances. Findings were significant in that the reactions of the significant other resulted in changed self-ratings.

Other changes in the self-concept of students have been precipitated by both individual and group counseling within the confines of the school. For elementary children who received individual counseling there was significant improvement in self-esteem as measured by sociometric ratings and evaluation by counselors but no significance was found when self-ratings and teacher ratings were employed as measures (Baty, 1969). An attempt to evaluate behavioral counseling with 84 culturally disadvantaged underachieving junior high school students was made by Morgan (1970) who hypothesized that the experimental students would show greater improvement in self-esteem than the control students. Expecting that better academic achievement would promote improvement in self-concept, counselors

directly intervened in the students' maladaptive behavior in an attempt to improve poor study habits. True to expectations, counseled students showed significant improvement in both areas. A study, using 121 undergraduate students, which was designed to investigate changes in the concepts of Self, Ideal Self, and Ordinary Person as a function of educational-vocational counseling (Williams, 1962) resulted in highly significant findings. Counseling discussions with each experimental subject followed the client's expressed desire to explore some problem or problems related to the educational-vocational sphere. It was concluded that counseling led to an increase both in personal adjustment scores and in congruence among the concepts of Self, Ideal Self, and Ordinary Person. In an attempt to delineate effective variables in the educational-vocational counseling process previously discussed, a follow up study was made (Hills & Williams, 1965). It was hypothesized that positive changes would be brought about as a result of communication of educational-vocational test results to subjects; rather, results indicated that instead of effecting positive change, test results which differed from clients' preconceived notions of themselves had a negative effect.

A classic group of studies investigating effects of certain variables on self-concept change was a result of intensive work by Rogers and associates at the University of Chicago Counseling Center (Rogers and Dymond, 1954) using client-centered counseling. Basic to all client-centered counseling were the following hypotheses: (a) The client possesses the capacity to understand the aspects of himself and his life that are causing psychological discomfort, and the capacity and tendency to reorder himself in the direction of self-actualization and maturity so as to achieve

greater internal comfort; (b) the capacity for redirection will be released in the presence of a counseling climate characterized by acceptance, warmth, and empathy on the part of the counselor; (c) the client will change his perception of himself, will become more understanding and accepting of others, and generally more mature in his behavior; and finally, (d) the therapeutic relationship is an indicator of the possibility that all interpersonal relationships could be governed by the same conditions as those indicated in the first three hypotheses. Based on client-centered counseling, Butler and Haigh (1954) reduced discrepancies between Q sorts for Self and Ideal Self. The experimenter explained that low correlations between self and ideal result because of a low level of esteem which indicates a low adjustment level and that consequently, clients experienced a rise in the level of self-esteem and of adjustment. In order to provide an outside criterion an adjustment score was developed from the Butler and Haigh Q sort by Dymond (1954) who demonstrated positive increases in self-concept adjustment scores after client-centered counseling. Comparative changes in perceptions of Self, Ideal Self, and Ordinary Person as a function of client-centered therapy were reported by Rudikoff (1954) who found that not only did all three concepts become more congruent but that increased congruency was maintained during a follow-up period of six months.

A review of literature pertaining to group counseling resulted in an unexpected number of studies spanning a range of students from elementary school through college. The purpose of one such study (Mann, Beaber, and Jacobson, 1969) was to effect a change through improvement of the self-concepts of 18 mentally retarded boys in elementary school. Counselors allowed opportunities for expressions of hostility and aggression and

release of anxiety through discussions, role playing, games, and sharing of experiences. Results indicated significant improvement in self-concept, reduction of anxiety, and in deportment as well as in academic grades. Age and IQ were not found to be significant factors. Using 22 experimental subjects, Ohlsen and Gazda (1965) found significantly increased perceptions of self and ideal self in bright, underachieving fifth graders. Significant positive changes were found in acceptance of self and others when gifted underachieving ninth-grade subjects in group counseling were compared with a control group (Broedel, Ohlsen, Proff, & Southard, 1960). Other low-achieving students were tenth-grade boys who received developmental counseling for the purpose of mastering developmental tasks necessary for adequate coping behaviors (Benson & Blocher, 1967). Compared to a control group, significant positive improvement was found in feelings of adequacy. In an attempt to improve attitudes of slow learners through group counseling, Lodato, Sokoloff, and Schwartz (1964) counseled with subjects varying in age from eight to 16. On the basis of comparison of pre and post scores, they concluded that significant improvement in self-concept was realized. Davis (1970) assessed the effectiveness of small group counseling on underachieving seventh-grade and ninth-grade boys. Unlike most of the other studies reviewed, Davis' data covered a span of one full school year with pre and post measures of self-concept, personality achievement, grade point averages, intelligence, and behavior. Significant improvement was achieved on all measures except for grade point averages and intelligence. With junior high school students as subjects, Caplan (1957) compared changes in disruptive antisocial boys with control groups using age, sex, intelligence, and school achievement as bases for matching.

Experimental subjects were counseled once each week for 10 weeks in sessions which allowed venting of hostilities toward school and exhibition of aggression in a safe setting. Significant positive gains in self-concept were realized.

Recent literature has emphasized the efficacy of multiple counseling for students of high school age, resulting in decided growth of its use during the last decade. Ohlsen (1970) emphasized that group counseling provides adolescents with an opportunity for (a) self-identity, (b) increased self-understanding, (c) obtaining adequate information, (d) enhancement of self-respect by helping others, (e) improving skill in assimilating and appraising information, (f) gaining confidence in ability to face and solve problems, (g) improving sensitivity to needs of others and improving skills for helping them, (h) improving interrelationship skills, and for (i) conveying feelings and wants to authority figures.

Using a Q sort to measure the effects of educational-vocational group counseling upon perceptions of self and others of 13 groups of high school subjects, Catron (1966) found that perception of self changed significantly for improved adjustment, but for perception of ideal person or ordinary others no significant changes were effected. Counseling sessions discussed in Catron's study were somewhat different from educational-vocational individual counseling studies previously discussed in that Catron allowed discussion of parent-child relationships, variation in quality of teachers, relationships with peers, and social attitudes and underlying feelings relative to choice making and problem-solving. Bates (1966) obtained significant positive results in acceptance of self and others as a result of group counseling sessions of one hour each week for

13 weeks. An investigation by Hansen, Zimpfer, and Easterling (1967) attempted to assess conditions which relate to changes in self-concept. Concerning real-ideal self-congruence they found that students' perceptions of the relationships are important, and that congruence changes become negative or positive dependent upon whether a negative or positive relationship is perceived. Finally, a study which achieved significance with high school students as subjects concerned the usefulness of group counseling for preparing seniors for college life (Clements, 1966). Counseling focused on attitudes, fears and aspirations, resulting in less anxiety toward self both prior to entering college and later. Studies involving group counseling which failed to achieve significance (Baymur and Patterson, 1960; Taylor, 1970; Warner, 1969) dealt with behavioral counseling for alienated students, effects of group counseling on self-concepts of high school health classes, and counseling for improvement of self-concept as an aid toward improvement of academic achievement respectively.

A final area of investigation of group counseling concerns studies in which college students were subjects. Padgett (1968) reported significant gains in self-concept scores for 302 future teachers who rated the counseling experience as a valuable aid to insight and understanding of self. McFarland (1971) determined that training in interpersonal communication resulted in an immediate positive change in self-concept for future teachers, and that the change continued to increase until student teaching was completed. The purpose of a different study (Lamb, 1968) was concerned with determining the consequences of directive and client-centered counseling on externally reward oriented students. Significant positive

improvement in self-concept resulted in both cases of client-centered counseling while changes were negative in both directive counseling groups. Kirts (1970) made a comparison between the effects of programs of orientation counseling and an orientation lecture program on self-concepts and sociability of college freshmen with results significantly favoring the orientation counseling. An investigation that failed to report significance (McCary, 1970) dealt with the human environment of students as represented by small heterogeneous, homogeneous, and complimentary self-understanding groups. Each of the groups, led by nondirective leaders, met for a total of 13 sessions over a period of six weeks. Regardless of the lack of significance, the complimentary group expressed a desire to continue group counseling.

A relatively unexplored variable that may influence self-concept lies in the area of physical education. The purpose of one study (Read, 1969) was to investigate the relative influence of competitive and non-competitive programs of physical education on body image and self-concept of high school students. A significant finding was that both constant winning and constant losing effect self-concept change positively and negatively respectively. No change was reported for subjects who fell near the middle, neither winning nor losing all the time. Therefore, to find a way of keeping competitive physical education activities within the reach of all participants so that self-concepts will be improved or maintained is a question which needs to be explored.

Variables Affecting TSCS Scores

A review of 400 studies which used the TSCS as a measure of self-concept, revealed that variables which demonstrated significant

systematic effect upon self-concept scores were age, race, and socioeconomic disadvantagement (Thompson, 1972). A general conclusion reached was that self-esteem usually increases with age, and that there exists a high consistency across samples within various age groups with the least amount of deviance appearing between age 20 and 60.

A second variable which Thompson concluded to generally affect self-concept scores as measured by TSCS was that of race. While no mention was made of other minority races, a characteristic TSCS profile among black samples revealed that junior and senior high school subjects had relatively low positive feelings of self.

The review of the studies presented socioeconomic status as a final major variable that may need to be controlled in research studies. Though the socioeconomic variable exerted little systematic effect at the junior high level, it became more negatively pronounced with subjects in high school, young adult, and adult categories.

Literature relating to changes in self-concept within the school setting has been reviewed according to categories of self-concept change. Categories discussed were enhancement programs for both disadvantaged and middle class students, influences on students by significant others, counseling, both individually and in groups, and physical education. An attempt was made to report both significant and nonsignificant results, but a majority of the studies reviewed indicated positive changes in self-concept. Finally, a review of the variables which have been found to affect scores on the TSCS has been presented.

Learning Components of "Adventures In Self-Discovery"

Positive change in self-concept as a result of participation in

"Adventures In Self-Discovery" is predicated upon the learning components of (a) repetition, (b) concentration of effort, and (c) teacher-pupil interaction dynamics. Discussion of literature relating to concentration of effort will be included within the framework of repetition, all of which will be followed by discussion of literature relating to dynamics of teacher-pupil interaction.

The role of repetition in learning. Relative to the role of repetition in learning and retention the following considerations are to be investigated: (a) Is the learning and retention process accomplished in a single trial with repetition acting as an agent in providing the trials or is repetition related to learning and retention through a process of gradually establishing associative or dissociability strength at or above a learning level? (b) Does frequency serve a distinctive function in affecting learning and retention apart from its role in allowing the operation of other variables such as contiguity, drive reduction, and confirmation-clarification? (c) What is the specific relationship between repetition and meaningful learning?

The essence of the issue of one-trial versus incremental learning is whether associative strength improves in an all-or-none fashion from zero to maximum or whether learning results in successive increments ranging from no learning to below-threshold learning to overlearning. The debate on the issue is not concerned with whether repetition is needed, but rather it is concerned with the role of repetition for both positions generally recognized that (a) the number of correct responses increases with practice, (b) items within a series may be acquired at different rates, and (c) the existing conditions that cause differences in difficulty of individual

items can be expected to influence all-or-none and incremental learning alike. The two positions differ drastically, however, concerning the effect of trials prior to the first correct response (see later studies). Consistent with the all-or-none hypothesis is the notion that the value of repetition lies in its provision for opportunity for new associations to be established in any single trial. According to the theory, no learning takes place on trials prior to the first correct response with habit strength remaining at zero until it is maximized by a correct response. Therefore, the unitary view of learning naturally leads to a like conclusion about the phenomenon of retention. As the all-or-none theory fails to recognize the possiblity of overlearning because the association reaches full strength at the time of the first correct response, there is no efficacy in additional practice per se either for learning or for increase in resistance to forgetting. Since the theory holds that the probability of any given response to a stimulus is either zero or one, it is impossible for multiple responses to be associated with a stimulus. Therefore, competition of responses at recall is an impossibility and association forgetting which the theory holds to be a result of interference must happen on an all-or-none basis. A pertinent issue raised by Postman (1963) challenged the unitary position in that if items that have been forgotten are recovered without intervening reinforcement, interference cannot be credited with being responsible for the incomplete forgetting, and that if incomplete forgetting is indeed a reality, the unitary theory must reject the idea of forgetting as a function of interference or produce additional assumptions relative to retention.

The role of repetition, according to the incremental hypothesis, serves to gradually increase habit strength during learning trials. When associative strength has accrued to the level required for performance the first correct response occurs. Unlike the all-or-none theory of learning, this does not preclude the notion that learning has taken place at a below-threshold level prior to the correct response. The theory of retention follows as a consequence of incremental learning theory. It postulates that retention varies directly with frequency of repetition. The probability of recall is directly functional to the level of associative strength at the end of practice.

Among the all-or-none learning theorists were the gestalt psychologists (Koffka, 1935; Kohler, 1947; Krechevsky, 1938) who proposed that insight, their definition for learning, is obtained instantly, and that trials or repetitions previous to the emergence of insight have no bearing on attainment. They explained that learning appears to be incremental because instruments for measurement are insensitive to sudden acquisition of learning or because the pooling of data for many subjects who have achieved sudden insight learning during various trials results in a smooth and gradual learning curve. Rather, the insight theory was concerned with perception including the laws of proximity and closure. According to the gestaltists, as long as an individual is struggling with a problem, perception is incomplete, but when reward solves the problem, the parts tend to consolidate into a perceptual whole consisting of the problem, the goal, and means for its attainment. Emphasis is on completion of the activity through bringing a number of parts into relation with one another. Reward is regarded as producing its effect through change of the

perception of the situation for the learner so that the stimulus, the response, and the reward form the gestalt. With a theory that was similar to the gestaltist's law of closure was another all-or-none believer (Guthrie, 1952) who theorized that a solution (movement) to a problem changes the situation so that the last response which occured remains conditioned to the stimulus of the problem. Guthrie's premise, based on contiguous conditioning rather than frequency, simply says that if a response accompanies a given stimulus once, it will tend to follow that stimulus again. Thus Guthrie accepted Watson's (1925) principle of recency but not of frequency. Rock (1957) designed two classic experiments for testing whether any learning occurs before the initial occurence of the correct response. In the first experiment he adduced some support for learning of paired associates in an all-or-none fashion. Administering a list of paired associates of single- or double-letter stimuli and number responses, he used a drop-out procedure in which for the experimental group on each trial all unlearned items were immediately replaced with new similar items. The process was continued until the subject met the criterion of one errorless trial for all pairs. A control group learned the same pairs with repetition until criterion performance was met. Finding no difference in trials-to-criterion for the two groups, he rejected repetition as a necessary condition for learning. Like results were found in the second experiment which differed only in that lists of paired nonsense syllables were used. Rock's experiment was criticized on the grounds that a slow rate of presentation allowed for uncontrolled rehearsal. Lockhead (1961) tested the criticism by replicating Rock's study, and by reducing the rate of presentation obtained a highly significant difference

in favor of incremental learning. Rock's experimental results were further criticized in that the drop-out procedure may have allowed subjects to concentrate on certain pairs during each study trial with possible neglect of the others, thus shortening the list to be learned on any trial. Such possible selective rehearsal was tested by Postman (1962) who reasoned that if subjects were required to spell the individual stimulus and response items on each trial selective rehearsal would be minimized. He found that control subjects learned significantly faster, a result that pointed to lack of control by Rock. The second part of Rock's study was further challenged because of the use of nonsense syllables, a condition which was felt to be inadequate in testing for speed of acquisition because of the necessity for response learning. Studies which used word-number pairs for correction of the effects of nonsense syllables confirmed Rock's results (Clark, Lansford, & Dallenback, 1960; Wogan & Waters, 1959). Also, controlling for the same weakness but failing to support Rock's results, Underwood, Rehula, & Keppel (1962) in four different experiments found borderline support for the incremental theory when the control group surpassed the experimental group, and when the rate of exposure had no bearing on results. A third major criticism of Rock's investigation was that the drop-out procedure allowed item selection to the extent that the final list learned by experimental subjects consisted of easier items, a premise that was supported when Postman (1962) made two replications of Rock's experiment with the addition of a second control group whose subjects received the lists which the individual subjects in Rock's drop-out condition had ultimately learned. Contrary to Rock's findings of no difference in control and experimental groups, for both experiments Postman's two control

groups using repetition were significantly better than the drop-out conditions. Further evidence that the drop-out procedure allowed item selection (Underwood et al., 1962) was produced when Rock's basic materials were used in replications of his study which used pairs of single- and double-letter stimuli and digit responses under both drop-out and standard control conditions with the addition of a second control group which also learned the lists eventually learned by subjects in Rock's drop-out conditions. The study determined that the drop-out procedure led to easier lists, again offering supporting evidence against Rock's findings relative to one-trial learning.

Another series of studies relating to the question of how repetition affects learning, and more specifically whether any learning occurs prior to the first correct response, began with Estes (1960) who designed the Reinforcement-Test-Test (RTT) paradigm with reinforcement defined as the presentation of a paired stimulus and response member. Based on the one-trial-learning theory with the use of conditional probabilities, he reasoned that subjects whose responses were incorrect on the first test would likewise be incorrect on the second since there was no chance for learning between the two tests. In two experiments employing the RTT design and eight pairs of word stimuli and single digit responses, Estes, Hopkins, & Crothers (1960) sought to give support to the one-trial theory. Contrary to what the incremental view would have predicted, they found that items which were incorrect on the first trial, allowing for chance guessing, were almost invariably incorrect on the second trial and that the probability for an item to be correct on a second test was much higher for items that were correct on the first test. Because the probabilities of response

change did not increase from the first to the second test trial they reasoned that associative strength either increases 100% on any trial or shows no increase. Underwood and Keppel (1962) criticized the findings as inconclusive evidence for all-or-none learning because they felt that controls used for difficulty of items were equivocal. In their second experiment, Estes et al. (1960) varied the frequency of reinforcement (one versus two) in an effort to understand the course of retention from one test to the next as a result of varying prior conditions of reinforcement. Though results indicated that retention remained constant under either condition, for both correct and incorrect responses it increased as the number of preceding tests increased. Of major interest was the fact that losses in retention did not occur on an all-or-none basis. The probability remained above chance for a correct response after being followed by an incorrect one to recur on a later trial. The experimenters attributed the response shifts to fluctuations in the stimulus context from series to series rather than to forgetting. Postman (1963) emphasized that failure of retention to vary according to the number of reinforcements was not decisive evidence in support of all-or-none theory for two reasons. First, the high level of retention after one reinforcement left little room for improvement and, second, because of insufficient variation in number of reinforcements massive transfer may have masked differences between one and two reinforcements. Ausubel (1963) also regarded the Estes et al. finding as inconclusive in that allowances were not made for the possibility of gradual increments in associative strength below threshold level which were not revealed in performance. In attempting to circumvent weaknesses considered to be inherent in the study by Estes et al. (1960), Postman (1963) designed

experiments which considered changes in responses (those correct on the second test which were incorrect on the first) as a function of the number of reinforced trials preceeding the first test. All-or-none theory would indicate that the probability for changes in response should remain at zero while incremental theory, recognizing a threshold of response evocation, would predict that changes in response would be a function of the number of prior reinforcements. Controlling for item difficulty and for individual differences in learning ability, Postman's learning materials were lists of 20 paired-associates using two-digit numbers and highly familiar words. Experiments differed only in time allowed for the interval between successive study and test trials. Supporting the incremental learning theory, the two experiments were comparable in determining that the proportion of new recalls and the amount of retention on successive tests increased with the number of presentations. Also supporting the incremental theory were Underwood and Keppel (1962) and Swartz (Postman, 1963) whose findings concluded that associative strength increases with trials that fail to produce a correct response but which nevertheless influence the rate of subsequent improvement.

Obviously the debate on the theories of all-or-none and incremental learning has existed for a number of years, and studies reviewed presented no evidence that it is soon to be resolved, for presently there appears to be no standard definitions of such things as trials, tests, reinforcement, and learning itself. Until such time when some kind of standard language is operable in order for experimental studies to be comparable, a meeting of the minds is precluded.

For this discussion consideration of the role of frequency in learning is not concerned with whether frequency is necessary for learning but whether frequency serves a distinctive function in affecting learning and retention apart from its role in allowing the operation of other variables such as contiguity, drive reduction, and confirmation clarification. Early studies of the value of frequency as a learning variable within its own right were made by Thorndike (1931) who wondered what would happen when an individual was subjected to the same condition repeatedly with everything else held constant. Numerous repeated attempts to draw a line an exact length when subjects were blindfolded led to no improvement regardless of the number of repetitions. Thus, he concluded that learning always occurs in connection with something and that repetition in and of itself has no power. He emphasized that if a certain state of affairs acts upon an individual thousands of times, the response becomes no different insofar as any intrinsic action of the repetition is concerned. Rather, as a result of numerous other investigations (Thorndike, 1931, 1932), conclusions stated that the efficacy of repetition rested in its allowance for other factors to be effective; belongingness, knowledge of results, and reward (satisfying effect). Reward, in the sense of direct confirmatory reaction, was independent of sensory pleasures, mediation of ideas, and the intensity of the satisfier--the law of effect as opposed to affect. Ausubel (1963) criticized Thorndike's experiments, reasoning that the learning tasks were highly atypical, impossible to master without explicit intention or knowledge of results, and that those conditions were not supplied. Therefore, there was no difficulty in demonstrating that numerous repetitions of tasks were ineffective for learning. For example, in the line-drawing

experiment, knowledge of results was obviously necessary for a constant stimulus situation was repeated with the response being variable, whereas, according to Ausubel, feedback is not indispensible for learning in situations either where both stimulus and response are specified, or where the task is simply to reproduce the presented material. Disagreeing with Ausubel, Trowbridge and Cason (1932) found that when the individual was informed each time after the attempt at drawing the line that his performance was longer or shorter than the desired length, improvement followed repetition. In a series of experiments investigating the relationship between manipulated frequency and learning (Waters, 1939) no support was found for the value of frequency per se.

In one experiment subjects were asked to learn a list of syllables after seven exposures of familiarization training, while controls received no training. Subjects handled individually in the second experiment were exposed to four separate conditions of familiarization training with no difference in learning becoming manifest. Varying the experimental conditions slightly in other investigations, Waters continued to find no support for frequency as a learning variable in its own right.

Paralleling Thorndike's study of frequency with feedback, was a study (Dressel, Schmid, & Kincaid, 1952) which demonstrated that frequency of theme writing without provision of feedback had no significant effect on acquisition of composition skills. Other prominent learning theorists who discredited the inherent role of repetition were Hull (1943) who proposed that repetition per se does nothing to facilitate learning, but rather learning depends upon contiguity of stimulus and response with reinforcement (reward) specified in terms of need reduction, and Tolman

(Hilgard & Bower, 1966) who claimed that though frequency is not effective in the initial selection of the right response, teamed with belonging it aids in establishing a connection, and that after the response has been learned overexercise tends to fix it. Guthrie's theory of learning (Guthrie, 1952), concerned only with movements of the organism regardless of whether they were toward or away from success, explained that practice appears to bring improvement because improvement refers to complete acts or skills which consist of a population of habits. Practice is necessary in that it produces its consequences through attachment of cues to movements until a family of stimulus combinations, each learned in a single repetition, come to evoke a whole family of responses which in combination form the desired skill. More recently, Tulving (1968) hypothesized that an individual's mnemonic performance in free recall depends to a large extent on methods that are used to organize the materials rather than on repetition alone. Testing his reasoning, he presented learning lists of words both with and without mechanical repetition of items, and concluded that mere mechanical repetition had no noticeable effect on subsequent memorization of those items, provided the individual items were already well known to the subject.

Though smaller in number, members of the opposing camp are no less vociferous for the value of repetition. In a series of investigations frequency was manipulated in order to ascertain the relationship between repetition and learning. Noble (1954) presented 16 dissyllables for different frequencies from 0 to 25 times. Each item was pronounced by the subject who later rated the items on a familiarity scale. A direct relationship between scaled familiarity and frequency of original

presentation obtained. Noble (1955) reasoned that if the obtained relationship was not an artifactual one, a faster rate of learning should be observed for items which had received the greatest amount of frequency. Choosing six items of low familiarity value, familiarization training was varied from 0 to 20 trials with each word being pronounced during presentations. Items were subsequently made into a serial list which was learned to two successive perfect trials. Conclusions again supported the value of frequency in that the rate of learning an item was directly related to the number of familiarization trials. In order to further test the effects of frequency, in a carefully controlled experiment (Underwood & Schulz, 1960) frequency was manipulated in an attempt to verify the hypothesis that paired associate learning should be an increasing function of the amount of familiarization training given for both the stimulus and the response units of the learning list. Results supported the hypothesis in regard to response units but failed to verify the prediction relative to stimulus units. Two further experiments (Underwood & Schulz, 1960) confirmed that familiarization of training of syllables which were the response units in a paired-associate list facilitated later learning of the syllables in both serial and paired-associate lists. Finally, a major contender for the value of repetition was Ausubel (1963) whose explanation of the effects of frequency went beyond that of Tolman (1931). Tolman believed that the residual effect of frequency on learning that could not be accounted for entirely in its effect in drive reduction or cognitive confirmation-clarification must be attributed to temporal contiguity on learning over a series of trials. However, Ausubel concluded that the learning effects of frequency are greater than the summated effects of

contiguity alone. He contended that, in addition to the effects of repeated presentations in determining and enhancing new cognitive content, the newly acquired cognitive content itself reciprocally induces changes in the perceived learning task which makes it more learnable. After the two elements of the learning item have been perceived as one in the newly formed association, additional frequency transcends the cumulative influence of contiguity on associative or dissociability strength. Further, the mediating influence of the newly formed cognitive content increases the learner's responsiveness to the next presentation by transforming the actual stimulus content into the perceived content, making interaction possible. The interaction ccnstitutes the distinctive effect of frequency on learning and retention.

The third and final facet of the role of repetition in learning to be discussed in this paper is the relation of repetition and meaningful learning. Meaningful learning here is to be differentiated from the definition presented by Underwood and Schulz (1960) in which meaningfulness of verbal units and the rate at which they are learned are functions of the relative frequency of occurence in the learner's previous experience. According to the definition, increased frequency accounts for greater availability of verbal responses which in turn is necessary for the first stage of verbal associative learning. Likewise, meaningfulness here is to be differentiated from the representational mediational process (Osgood, Suci, & Tannenbaum, 1957) in which sign (any pattern of stimulation which evokes reactions relevant to the significate) and significate (an object which evokes reactions) are linked. According to Osgood et al., words represent things or have meaning because in a process of mediation they produce

some replica of the actual behavior toward the objects. A sign has meaning only insofar as it evokes a mediational process that is partially equivalent to the total behavior elicited by the significate. Rather, the premise of meaningfulness in this paper will be defined according to Ausubel (1963) who concluded that meaningful learning does not refer to learning of meaningful material, but rather it is a process through which meaning is an outcome or product of learning rather than a characteristic of the content which is to be learned. Emphasis is on the process including the following qualification: (a) The material to be learned must be potentially meaningful. That is, the material itself must relate nonarbitrarily to relevant concepts in the learner's present cognitive structure, and it must have a phenomenological meaning related to a particular cognitive structure of the learner as it applies to the individual's intellect, ideational content, and experiental background; (b) The learner possesses a meaningful learning set to relate substantive (as opposed to verbatim) aspects of new concepts, information or situations to relevant components of existing cognitive structure in ways that make incorporation of derivative, elaborative, correlative, supportive, qualifying, or representational relationships.

Meaningful learning then produces relatively permanent organizational changes in cognitive structure in response to deliberate initial and successive specific presentations of the learning task. Through modification of cognitive structure, practice affects learning and retention and increases stability and clarity of newly learned materials, it strengthens dissociability, and enhances responsiveness to subsequent presentations of the same material. Specifically, according to Ausubel (1963), inter-trial

rests can facilitate later learning and/or retention trials in three ways: (a) As repetition strengthens components of the learning task remaining to be learned, the resting time also allows for learned components to be forgotten, components which also can profit from later learning trials; (b) Confusion which is attributable to the initial learning shock can be dissipated through rest, and opportunity is provided for the forgetting of interfering responses or meanings; (c) Inter-trial rests allow the learner to become acquainted with the interfering and subsuming processes that effect the loss of associative and dissociability strength, a forearming condition which equips the learner to cope with the decremental effects during and after later learning trials.

Efficacy of spaced versus massed practice has long concerned educators. Fundamentally the problem is concerned with whether learning is most improved by using a practice technique that is spaced over time providing rest periods between practice sessions (spaced practice) or whether pushing the practice sessions together and allowing no rest between sessions (massed practice) is more efficacious. Based on Ausubel's definition of meaningful learning (Ausubel, 1963), studies will be presented which relate to (a) the effects of distribution of practice, (b) method of practice, and (c) knowledge of results, variables which are pertinent to the "Adventures In Self-Discovery" program. Experimentation with effects of spaced versus massed practice has become more popular during recent years though it dates back to Ebbinghaus (1964) who near the turn of the twentieth century, while investigating the effects of distribution of practice on the learning of stanzas of poetry, concluded that distribution of a number of repetitions over a space of time is decidedly more advantageous

than the massing of them at one time. Later studies, however, (Ash, 1950; Bumstead, 1940, 1943) suggested that the facilitating effect of distributed practice is less noticeable for meaningful than for rotely learned material. Ausubel (1963) attributed the less facilitating effect of distributed practice for meaningful learning to the fact that less inter-trial forgetting occurs when material is meaningfully learned. Practice in learning of prose passages in the form of spaced rather than massed reviews was particularly effective in promoting retention (Ausubel & Youssef, 1965; Reynolds & Glaser, 1964; Spitzer, 1939). In a more recent study (Ingle,Remstad, Gephart, & Lampsa, 1969) a meaningful task in 20 normal school classrooms in grades 6 through 12 was used for investigating the relative effectiveness of spaced versus massed practice. With memorization of a poem as the learning task, spaced practice treatment utilized 10 minutes a day for four consecutive days, while in the massed practice session, the time involved was four consecutive ten-minute periods in one day. Results yielded significant superiority in learning with the spaced practice method though neither method had a superior effecton a test of retention 72 hours after the original criterion memory test. An attempt to ascertain the efficiency of distribution of practice for the teaching of shorthand (Minnick, 1969) used specially prepared dictation materials designed to provide systematic recurrence of brief forms and their derivatives. Results confirmed that experimental students were able to write and transcribe the brief forms at a significantly higher level than control subjects. An early study (Gordon, 1925) concluded that with immediate retention as the goal in meaningful learning, massed practice has shown superiority over spaced practice but when tests for retention were

delayed distributed practice was found to be more effective.

A further consideration concerning the value of spaced reviews for meaningfully verbal materials is the temporal positioning. Conclusions of various studies agreed that spaced reviews, regardless of the time of occurence, have been found to be equally effective (Ausubel, 1966; Peterson, Ellis, Toohill, & Kloess, 1935; Sones & Stroud, 1940). Typical was a study in which Ausubel (1966) compared relearning reviews after one day and seven days with findings of no significant difference in retention. He suggested that early and later reviews each have advantages which produce a counterbalancing effect; early reviews offer consolidating and sensitizing effects while the advantage of delayed reviews inheres in superior relearning of forgotten material on motivational and cognitive grounds. Using eighth-grade students, Gay (1973) investigated the effect of temporal position of reviews on retention of mathematical rules wondering if conclusions similar to those of Ausubel (1966) would result for intellectual skills. She determined that temporal position of a single review was not an important factor; however, in a further study in which both an early and a late review were used, conclusions indicated that the combination yielded significantly higher scores than two early or two late reviews. Studies of the temporal position of rereading as a form of review of meaningfully learned materials (Peterson et al., 1935; Skaggs, Rossman, & Krueger, 1930; Sones & Stroud, 1940) indicated that maximum positive results were realized after rereading was delayed for approximately two weeks. Studies investigating the optimal temporal position of review by testing (Sones & Stroud, 1940; Spitzer, 1939; Tiedeman, 1948) indicated maximum effectiveness when reviews were given shortly after

original learning. Ausubel (1963) suggested that if the material to be reviewed must be supplied from memory, sufficient recall is needed in order to make review profitable, in which case time is of essence. When review material is not dependent on the learner's memory, the most advantageous time is after some forgetting has transpired. A terse, summarizing statement relative to the distribution and temporal position of practice would suggest that because new learning is easy to forget in the beginning stage, practice periods could profitably be massed, but once learning has become relatively fixed, maintenance of learning can be effected with spaced practice proceeding from shorter intervals to relatively longer ones.

Other studies which are pertinent to the "Adventures In Self-Discovery" program concern method of practice as it relates to repetition in learning. Method refers to arrangement of practice trials as distinct from distribution. Variables included are (a) recitation versus recapitulation of material, (b) type of response (overt versus covert) and (c) whole versus part learning. Recitation usually consists of attempting to recall previously read material with continual referral to the passage as an aid in the recalling stage to correct errors and omissions while recapitulation refers to rereading of the original material. The enhancing effect of recitation on meaningful learning is equivocal. Gates (1917) used short biographies for learning material to study the effectiveness of different proportions of reading to recitation, and concluded that reading followed by recitation was significantly superior to reading alone. In a later study which involved learning of long prose passages (over 2000 words) Peterson (1944) determined that recitation as a study skill was not superior

to reading alone though subjects were not allowed to refer to the learning passage after initial reading. A recent study (Giorno, Jenkins, & Bausell, 1974) further adapted Gates' procedure to the learning of a prose passage of 455 words of high density factual information, and found that recitation was incremental as measured by both an immediate and delayed cued recall test.

Closely related to the recitation-recapitulation issue is the question of whether the response made during practice is overt or covert. Overtness of response implies some amount of observable activity on the part of the learner while covertness implies learning activity that is not directly observable. Studies of the overt-covert dimension of practice in automated instruction (Goldbeck & Campbell, 1962; Krumboltz, 1961; Pressey, 1962; Silberman, 1962; Silverman, 1960; Walker & Stolurow, 1962; Wittrock, 1963) have generally failed to find superiority in the overt process in which subjects constructed answers, but rather subjects who responded covertly learned and retained verbal material as well as overt responders and were also able to learn in a shorter time. Studies (Kaess & Zeaman, 1960; Keislar & McNeil, 1962) also indicated that overt responding by pushing buttons was not superior to listening to or reading the correct answers which were already underlined. Other investigations presented a more positive outcome for the effects of overtness during practice. In a nonverbal serial recall task (Keeney, Cannizzo, & Flavell, 1967) in which six- and seven-year-old children were to recall pictures of familiar objects, children categorized as rehearsers proved significantly superior to nonrehearsers in recall of the pictures. After nonrehearsers were induced to rehearse, recall scores became indistinguishable from those of spontaneous

rehearsers. In another experiment in which subjects were instructed to recall either the color order, the spatial position order, or both color and position order of a sequence of colored lights (Daehler, Horowitz, Wynns, & Flavell, 1969) verbal rehearsal was an effective strategy while there was no evidence that use of pointing rehearsal was associated with superior recall of position sequences. Results of the first of a series of studies dealing with overt rehearsal by mentally retarded children (Kellas, Ashcraft, & Johnson, 1973) indicated that the memory deficits may be related to the failure to actively rehearse the material to be recalled, Kellas, et al., further reasoned that since rehearsal is necessary for transfer of input from short-term memory to long-term storage, the faulty secondary memory performance in retarded persons could result because of failure to apply organized rehearsal strategies. Their reasoning was verified when cumulative rehearsal strategy resulted in marked improvement in recall performance. Lobb (1974) found that verbal rehearsal can facilitate visual discrimination learning of both mentally retarded and normal children. Cursory inspection of the studies of overt rehearsal indicates that it is of little value in programmed learning but more effective in less programmed meaningful learning.

The final variable dealing with method of rehearsal is whole versus part learning. The issue has concerned both theorists and educational practitioners for some time. When verbal material is learned as a whole the complete task is practiced at least once before any segment is repeated. Part learning occurs when the task is divided into two or more parts and each part is learned to some criterion performance before the parts are combined. The progressive-part method combines the various parts by stages

while the pure-part method consists in learning all parts seperately to criterion performance after which they are combined into a whole. Results of comparisons between part and whole practice measured in time to criterion to learn the whole appear to be ambiguous until it is realized that structural relations existing within the learning materials are in large measure determiners of the speed of learning (Deese & Hulse, 1967). According to McGeoch (1947), the whole-part problem may be profitably condidered as three problems: (a) The time necessary for learning individual parts is the first consideration. It has been demonstrated that the sum of the times required in learning separate parts is less than the time to learn the same amount of material as a whole (McGeoch, 1947; Ausubel, 1963). (b) Combination of separately learned parts introduces a second factor, for time needed for combining parts may outweigh the savings accrued through small-part practice, or, it may be sufficiently small to favor learning by parts. For example, in three separate experiments employing a visually perceived maze (Cook, Morrison, & Stacey, 1935), 28%, 29%, and 29% of the errors were made during connection of parts. (c) When practicing short sections of material in sequence, unless the subject is already at practice level, positive transfer will accompany successive practices causing successively faster learning. As practice in sequence continues, however, some forgetting of earlier learned parts will decrease the advantage gained from working with smaller amounts.

The amount and direction of difference between methods are sometimes a function of the characteristics of the subjects. The difference is likely to favor the whole method as intelligence and age increase (McGeoch,1931).

The type of material to be learned is also a variable to be considered in the part versus whole discussion. A logical hypothesis suggests that effectiveness of the whole method should increase proportionally with continuity of the material and the advantage should shift to the part method as learning material becomes more disparate. Seagoe (1936), in a study of the degree of wholeness, employed four designs of differing degrees of perceptual unity which were divided into parts to be organized according to pattern. Results indicated that the more integrated designs were perceived more quickly in terms of trials, time and errors when using the whole method while the less integrated ones were learned more rapidly in parts. Basically the advantage of the whole study method resides in the ability of the learner to discern the relationship of each part to other parts as well as to the whole, thereby, avoiding the necessity of forming connecting links between parts. Whereas, in the part method current learning efforts are early rewarded--a condition leading to self-confidence and perseverence. In the final analysis the answer to the part-whole problem is to be found in the internal arrangement of material to be learned, that is (a) whether or not the interrelations within the learning task lend themselves to a split arrangement for structurally simpler learning, (b) the amount and difficulty of the material, and (c) the idiosyncratic qualities within the learner.

A final consideration of repetition and meaningful learning will focus on effects of knowledge of results, an issue that continues to be unresolved. Ausubel (1963) suggested that information both about actual effects of feedback on learning and about its mechanism of action is equivocal due to gaps and inadequacies in available research evidence. Nevertheless,

studies typical of those to be found in current literature will be presented.

Knowledge of results on individual test items was not helpful in producing final performance on later tests in a class of college freshmen (Ohlsen, 1972). Another study indicated no positive effect of feedback for anxious children who learned decimals in a programmed lesson (Oner, 1972). The amount of information given by knowledge of results and the knowledge of what to do to achieve a better outcome may have been crucial factors, because, usually in programmed learning units with low probability of errors, little information is gained through knowledge of results. Contiguity as a variable in presentation of informational feedback was investigated by Sassenrath (1972) who found no advantage for immediate over delayed feedback in an investigation of retention of prose material. Other studies of learning of meaningful verbal materials (Sturges, 1972a) have not found that immediate feedback aided retention. Further investigations (Anderson, Kulhavy, & Andre, 1971; Sturges, 1972b) indicated that the failure of superiority in immediate feedback may be due to carelessness and inattentiveness on the part of students in attempts to answer questions when knowledge of correct response is immediately available. A further study (Kulhavy & Anderson, 1972) again found superiority in delayed feedback, and suggested, that due to the delay, potentially interfering errors could be forgotten and greater attention could be given to feedback.

Effect of informational feedback has been found to interact differentially with various student characteristics. Informative feedback concerning correctness of response appeared to increase learning for middle-class, normally achieving children while children in lower socioeconomic classes

and nonachieving children were affected more positively by praise and tangible rewards (Blair, 1972; Terrel, Durkin, & Wesley, 1959; Zigler & deLabry, 1962; Zigler & Kanzer, 1962). Content of feedback has also been determined to be an important variable in learning. Low grade-point-average college students who were informed that they had done well on an aptitude test performed better than control subjects on a later test while high grade-point-average students produced better performance after being told that they had done poorly on the aptitude test (Means, R. S. & Means, G. H., 1971). In order to determine the function or functions of knowledge of correct response a series of studies was completed (Buss, A. H., Braden, Orgel, & Buss, E. H., 1956) in which the three verbal feedback alternatives "right", "wrong", and no comment were employed. Experimental conditions in which "right" and "wrong" and in which no comment and "wrong" were used produced faster learning than the condition in which the comment was "right" when the response was correct and no comment for incorrect responses. Another study (Travers, Van Wagenen, Haygood, & McCormick, 1964) designed to test for difference between saying "right" and no comment upon correct responses found no difference in the two conditions of feedback. In instances when the subject's response was incorrect there was a distinct advantage when the correct response was given in addition to saying "wrong." These studies indicate corrective feedback to be a distinct function of knowledge of correct results. A study of discrimination learning of lower- and middle-class preschool children (Spence & Dunton, 1967) concluded that the use of "wrong" given in the case of incorrect responses was superior to the use of "right" as feedback for correct responses.

Knowledge of results is also not a resolved issue in the study of perceptual learning. Studies demonstrating that feedback may clearly

effect the change of perceptual judgments in a positive direction were made by Clark and Graybill (1963) whose subjects reduced constant error in settings of the body to the perceived vertical form from a tilted position, and by Robinson (1963) whose subjects, in a study of the effect of the degree of knowledge of results, were able to become progressively more accurate in estimation of time. Significant change was also found by Lundin and Allen (1962) who attempted to train subjects for perfect pitch. Upon error in identification of any given note, subjects were shown not only the note in error but also the correct one. A study finding less positive results (Wohlwill, 1964) considered changes in distance judgments as a function of corrected and noncorrected practice. Results indicated that though effects of correction were favorable in reduction of an initially present overconstancy bias, there was relatively no transfer value to distances different from those used during training. Similarly, another investigation involving perception of distances (Elliott & McMichael, 1963) tested effects of knowledge of results in combination with instruction on the use of bodily cues. Results indicated improvement but the effects had dissipated upon subsequent retesting a few weeks later.

The nature of feedback effects appears to be highly variable, dependent upon characteristics of the learner, type, timing, direction of feedback, and type of task.

The role of teacher-pupil interaction in learning. Systems for observation of affective teacher-pupil interaction within a classroom (Amidon & Flanders, 1963; Flanders, 1965, 1970; Hughes, 1963; Withall, 1949) have been defined for some time. Withall's classification of categories of teachers' verbal statements was intended to discriminate teacher- centered

versus student-centered climates within the classroom milieu. The first two categories, "learner-supportive" and "acceptant" maximized the dimension of warmness and acceptance between teacher and student. Similarly, Flanders' system contained seven categories which were designed to classify teacher talk along a continuum from indirect influence to direct influence with the first four categories relating to indirect teacher influence a condition which, according to Flanders, encourages participation by the student and increases freedom of action. Those four categories were (a) acceptance of students' feelings through which the teacher in a nonthreatening manner accepts and clarifies feelings whether positive or negative, and predicts or recalls feelings when necessary, (b) praise, confirmation, support, and reinforcement of student action or behavior including nodding of the head, or saying "uh hum?" or "go on", (c) acceptance or use of ideas of students through clarification, building, or development of ideas suggested by the students, and (d) asking questions about the content or procedure of student verbalizations in an attempt to gain further student expression. All teacher behaviors falling within the four designated categories tend to positively reinforce student participation and to afford the opportunity for influential student behavior. Interaction analysis is based primarily on verbal behavior because of the high reliability of observation and because of Flanders' belief (Flanders, 1965) that verbal statements by a teacher are consistent with nonverbal gestures and are representative of one's total behavior.

A major part of the "Adventures In Self-Discovery" program was strongly predicated on precisely the dimension which Flanders (1963, 1965, 1970) attempted to measure in the four categories relating to indirect teacher

influence, and which was indentified by other terms such as integrative behavior (Anderson 1939a, 1939b; Anderson & Brewer, 1945), inclusive behavior (Cogan, 1956), and democratic leadership (Lippit & White, 1943). Instructions within the teacher's manual (Willingham, 1972), an important part of the "Adventures In Self-Discovery" program, stressed the power of "group dynamics", a term which for the program embraced (a) verbalization of feelings and accomplishments by students and (b) empathic listening by the teacher with the concomitant conditions of eye contact with students, unconditional acceptance of students, reinforcement through nonverbal teacher behaviors which demonstrate that students have psychological value, and use of students' names.

Early studies of teacher-student interaction in preschool, primary, and elementary classrooms (Anderson, 1939a, 1939b; Anderson & Brewer, 1945) were based on observation of the effects of dominative and integrative behavior of teachers. While "dominative" referred to teacher-centered behavior, "integrative" was more nearly synonymous with student-centered teaching. A significant finding was that each of the two kinds of contacts by teachers set a self-propagating pattern of behavior that became contagious throughout the classrooms, a phenomenon which was designated as psychological reciprocity in the "Adventures In Self-Discovery" program. When higher proportions of integrative contacts were established, spontaneity, initiative, voluntary social contributions, and contributions to problem solving by children increased accordingly. Supporting the conclusions drawn by the Anderson and the Anderson and Brewer studies were Lippit and White (1943) who categorized group leadership as either authoritative, democratic, or laissez-faire and found that when extensive compliance with the leader occured, a generalized condition of dependence

was established and group members were unable to proceed without directions from the leader. Results of comparison of dominative and integrative patterns of teacher interaction with students (Flanders, 1951) revealed that pupils consistently disliked the sustained dominitive pattern. Also, the accompanying effects of inability to recall the material studied and of measured disruptive anxiety were manifested to a greater degree than with the integrative condition of interaction. Focusing on teacher interaction rather than on teacher-student interaction, with the use of Withall's technique (previously discussed), Perkins (1951) studied groups of teachers whose tasks were to discuss the topic of child growth and development. Learning was facilitated when participants were free to pursue the discussion as they chose to do, a condition which prevailed within the integrative environment. A further study by Perkins (1965) investigated variables that were related to lack of achievement in high-ability fifth-grade pupils. Results indicated that achievers engaged in significantly more social, work-oriented interaction with peers than did underachievers, and that teacher criticism and student withdrawal were associated with decreased academic achievement. Results of similar studies (Christensen, 1960; Heil & Washburne, 1962; Mastin, 1963; Schantz, 1964) relating student performance to teacher influence indicated that high achievement was positively related to teacher warmth, empathy, enthusiasm, and positive regard for students. Using 987 eighth-grade students as subjects, a further study (Cogan, 1956) revealed that students who perceived the teacher's behavior as basically integrative reported doing both more assigned and unassigned school work than those who perceived the teacher's behavior pattern as basically dominative. Similarly, a more recent study

using secondary school students in investigation of the relationship between interaction analysis measures and pupil achievement confirmed results of studies previously cited. La Shier (1966) found a significant relationship between eighth-grade student achievement and teacher scores. A classical study of two-years duration (Flanders, 1963) which investigated the relationship between teacher influence patterns and the achievement and attitudes of students was concerned with the effects of direct and indirect teacher influence and various conditions of goal perception (goal clarity and goal ambiguity) and student achievement. In the goal clarity condition, the student was sure of his ultimate goal and the method for reaching it, while in the goal ambiguity condition, the student either had no surety of how to reach the goal or was uncertain of the goal itself. Subjects for the first year were eighth-grade students with whom the concepts of teacher influence and goal perception were used in the areas of geometry and social studies. During the second year the same relationships were tested using 900 students half of which were seventh-grade social studies students while the remaining subjects were eight-grade geometry students. Wherever significant differences were found, results were essentially the same for both years of the study. The prediction that students with more direct teachers would achieve less than students with indirect teachers was supported, and, furthermore, all types of students learned more working with indirect teachers, and students in both academic areas scored higher on achievement tests when they were under the influence of indirect teaching. One major implication for classroom teachers was that teachers who used indirect influence and whose students achieved greatest gains employed the social skills of communication which were characterized

by acceptance, clarification, and making use of ideas and feelings of students, skills that were emphasized in the "Adventures In Self-Discovery" program. Results further indicated that indirect teacher influence stimulated verbal participation by students, a condition which provided the teacher with student perceptions of a situation, regardless of the accuracy of those perceptions. Also, results indicated that with verbalization, students were able to develop more responsibility for diagnosing difficulties and forming plans of action.

Results of later studies dealing with teacher-student interaction (Dawson, Messe, & Phillips, 1972; Haddon & Lytton, 1971; Kohut, 1972; Lloyd, 1972) indicated improvement in learning with increased student-to-student and student-to-teacher interaction through verbalization of feelings. Other studies have also indicated that increased student interaction may improve learning. Patterson and Anderson (1964) concluded that when peers act as reinforcing agents for simple performance situations, school-age children work harder. A similar study by Hartup (1964) supported facilitating effects of peer verbalizations. Children who verbalized by talking about academic material to both peers and teachers were more likely to succeed academically than were children who paid attention without interacting with peers (Cobb, 1972). A further investigation (Milbers, 1971) concluded that when students participated in conversation groups in which there was active interaction, students produced better comprehension, fluency, and vocabulary in French than when students attended an audio laboratory. A study of faculty-student interaction in colleges by (Centra and Rock, 1971) indicated that student performance on Graduate Record Examination area tests was superior in colleges characterized by a high

degree of faculty-student interaction. Thus, verbalization between students and other students and between students and teachers appears to produce favorable educational outcomes at various levels of instruction. Because the actual behavioral influence of the teacher in the classroom is such an important factor, and because teachers have the tools available for observation of self or others, there is little need for ignorance of one's climate of interaction with students.

Method

For three class sessions each week during a six-weeks time period, ninth grade students will participate in "Adventures In Self-Discovery", a commercial program designed to improve self-concept of adolescents. Subtests (Row 1, Row 2, and Row 3) and Total Positive from the clinical and research form of the Tennessee Self Concept Scale (TSCS) will be marked by the experimental group to determine whether self-concept scores can be raised after participation in the program. The pre and post measures will also be marked by a control group who will receive no treatment.

Pre Experimental Procedures

Selection of subjects. The sample will be drawn from ninth-grade English classes of Western Oaks Junior High School which is located within a middle-class suburban area, and is one of four junior high schools of the Putnam City School System. The sample will consist of an experimental group of 31 students and a control group of 32 all of which will be age 15, white, and average in ability. Average ability will be defined according to criteria used for placement in class sections within the total population of approximately 600 ningh-grade English students in the school. These criteria are: a score of 90 to 110 on Level 4 of the Short Form

Test of Academic Aptitude (SFTAA) (Sullivan, 1970), and recommendation of previous English teachers. Students meeting these criteria will be assigned to classes on a random basis. The intact classes with each class consisting of both male and female students will be randomly assigned to experimental and control groups taught by the same teacher. The particular teacher will be selected because of her willingness to cooperate in the research effort.

Selection of instruments. The instrument utilized in collection of data will be the research form of the TSCS. The TSCS (Fitts, 1965) was selected because of its applicability to junior high school subjects, the multi-dimensional character of description of the self-concept, adequate standardization, and because of excellent validity and reliability. Construct validity of TSCS was assured as a result of the process of item selection by which the 90 items for assessment of self-concept were included only after seven clinical psychologists were in perfect agreement concerning inclusion in the scales. Validity was emphasized by Bentler (1972) who reviewed the "remarkably high" correlations with other measures of personality, and who suggested that the TSCS overlaps sufficiently with other well-known measures to warrant substitution for those measures in various situations.

Test-retest reliability coefficients reported were high on all major scores with those for the four scores to be used in this study ranging from .88 to .92. Although no coefficient of internal consistency was reported, the test reviewer previously mentioned suspected that the coefficient would be "quite high" because of the high correlations obtained between scale scores and other measures, especially the Minnesota Multiphasic Personality Inventory.

An alternate instrument for collection of data in case of absence of significant results is the Nowicki-Strickland Locus of Control scale (Nowicki & Strickland, 1973). The scale, designed for measuring externality, was selected because it appears to be a precise measure of locus of control of reinforcement for use with a wide age range of children, and because of ease of administration, and adequate validity and reliability notwithstanding the recency of development.

Construct validity was realized as a result of the process of item selection in which items were included only after nine clinical psychologists agreed upon the externality dimension of the items. Validity was further established through examination of relationships of the scale with three other measures of locus of control. Results range from r = .41 at the age 9 to 11 level to r = .61 for college-age adults. Further evidence of validity appeared when relationships of locus of control to socioeconomic level and achievement were examined. Internality appeared to be significantly related to high occupational level while a clear relationship between an internal locus of control and achievement scores emerged.

Using the split-half method, estimates of internal consistency for grades 3 to 12 ranged from r = .63 to r = .81 with r = .74 at the ninth-grade level. Test-retest reliabilities were .66 for the seventh grade and .71 for the tenth grade.

Control of intervening variables. Variables which were found to produce systematic effect upon self-concept as measured by the TSCS were previously discussed in the Review of the Literature section of this prospectus. Control of the three influential variables of age, race, and

socioeconomic disadvantagement will be effected in that (a) all subjects are to be 15-year-old ninth-grade students, (b) all will be white because there will be no black students in ninth grade at Western Oaks Junior High School, and (c) all will come from middle class homes of a suburban area. Though studies concerning the effect of IQ scores on TSCS scores are sketchy and inconclusive, all subjects will nevertheless come from the average category of intelligence as determined by SFTAA scores.

Experimental Procedures

Establishing teacher cooperation. After securing teacher interest and willingness to participate in teaching the "Adventures In Self-Discovery" program, training sessions will be held during which time the cooperating teacher will be apprised of the fact that results to be experienced will become the basis for this study. Sessions will be conducted at which time the learning components and suggestions from the manual for teaching the components will be thoroughly discussed. Since the experimenter is to assist the classroom teacher, a roster of specific duties for each will be devised.

Establishing student cooperation. One week prior to the time for the beginning of the experimental treatment, the classroom teacher will solicit cooperation of experimental group students by informing them that they have been "selected" to help in a project which will assist teachers in learning how to improve teaching techniques, and which simultaneously will aid them in gaining knowledge about themselves, about use of self-knowledge for improvement, and about effective self-expression. The classroom teacher will also mention that help of the counselor (the experimenter) will be needed for duties such as record keeping, distribution

and collection of materials, and operation of the tape recorder which will be an integral part of the learning program.

Administration of pretest. Following the class session in which cooperation of experimental subjects is secured, the teacher will suggest to the students the necessity for marking the pretests as a prerequisite for measurement of learning that might occur. The cooperating teacher also will explain that the testing session will be supervised by the counselor because of special training in testing which the counselor has received. The testing session will subsequently proceed with marking of the TSCS according to instructions in the TSCS manual.

Administration of pretests for the control group students will be effected on the same date as that for the experimental group students. A different approach will be necessary in gaining cooperation. The classroom teacher will appeal to their sense of helpfulness by stating that information is needed concerning how junior high school students feel about themselves. Again, the presence of the counselor will be explained as a necessity in order that help for the teacher will be secured. Subsequently pretests will be administered by the counselor with the cooperating teacher serving as an aide during the process.

Administration of the experimental program. Administration of the "Adventures In Self-Discovery" program will be executed by the cooperating teacher with the experimenter serving as an aide in such duties as distributing and collecting materials, operating the tape recorder, reading the exercises which are written by the subjects, and returning positive written comments to each one. Because the teacher will follow a prescribed set of instructions for accomplishment of each objective, the experimenter

will also serve in the capacity of observing the teacher and offering constructive comments when it appears that a tendency to deviate from the prescribed teaching conditions might exist. Students are not expected to question the presence of the counselor in the classroom because in Western Oaks Junior High School counselors often visit classrooms and help both teachers and students in various ways.

Administration of posttest. No special problem is expected in administration of the posttests for the experimental group after completion of the six-weeks study. Much testing is done in the school, and it is believed that students will accept the testing session as part of the program. Students are to be informed that they will be able to see the results if desired upon completion of the scoring process. For the control subjects, the cooperating teacher, as before, will request that the measures be marked as a favor in order to help the teacher to understand more about how students feel about themselves after a six-weeks period of time. If subjects appear curious, they also will be assured of being allowed to see both pretest and posttest scores on completion of scoring of all tests.

Analysis

The experimental design to be used is the Before and After Control-Group Design (Kerlinger, 1964) which allows not only for randomization, but also for pretesting on measures of dependent variables, a characteristic which will aid in checking the equality of the two groups through the procedure of analysis of variance. The two-way analysis of covariance using pretest scores as covariates will be used for testing the hypotheses.

In the event of nonsignificant results, the internalization characteristic of the children with large gains will be examined to determine whether these gains can be associated with aspects already present in the child. Specifically the Nowicki-Strickland Locus of Control scale will be used as a dependent measure and high versus low scores on the TSCS will be the independent measure.

The teacher will be asked to nominate children she has identified as likely to benefit most from the "Adventures In Self-Discovery" program and those unlikely to benefit. TSCS scores on these children will be analyzed with a t-test to determine whether teacher perceptions of future success are more accurate than chance predictions would be.

Conclusions

If the hypothesis of no difference in TSCS gain scores between students who experience the "Adventures In Self-Discovery" program and students assigned to a control group is rejected it will be assumed that the program was effective toward improvement of self-concept as measured by scores within the TSCS. In case of failure to reject, one can assume that for the sample of students in this particular study no significant gain in TSCS scores at the .95 level of confidence was achieved. In case the hypothesis is supported, recommendations for further testing involving larger numbers of students, teachers, and schools will be suggested.

Rejection of the second hypothesis that teachers will not be able to differentiate between students who will and will not benefit from the program experiences may indicate teacher perception of students' ability to profit from planned exercises for improvement of positive self-concept. Support of the hypothesis would yield information indicating that the

teacher in this study was not able to make an accurate prediction. Again, a more comprehensive study both in numbers of students and teachers may be desirable.

In the event of nonsignificant results for the main part of this study, the characteristics of control within children with high and low scores on the TSCS will be examined. A difference between means will suggest that high and low scores may be a result of internal versus external locus of control within children rather than a result of their experiencing the "Adventures In Self-Discovery" program.

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