

**'RELATIONSHIP BETWEEN PERSONALITY CONFIGURATION  
AND ATTITUDE TOWARD A STUDENT-CENTERED CLASS**

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**A Thesis**

**Presented to**

**the Department of Psychology**

**'Kansas State Teachers College of Emporia**

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**In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science**

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**by**

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**1971**

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## ACKNOWLEDGMENT

I extend my appreciation to my patient adviser and thesis chairman, Dr. Dal Cass. I would also like to thank Dr. Maurice McLean for serving on my committee. Special thanks go to Dr. Thomas Mullis for not only his technical but therapeutic advice as well, and to Mrs. Marie Metzdorf, for everything.

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## Chapter 1

### THE PROBLEM AND DEFINITIONS OF TERMS USED

It has become increasingly evident that education is not a sterile procedure added to an individual in X easy lessons, but a process of such dynamic complexity that it has been equated with psychotherapy (Bettelheim, 1969; Rogers, 1969; Sanford, 1962). Although the basic formulation of learning is simple,  $\text{learning} = f(\text{variables})$ , the universe of variables is infinite. To impose a degree of order, psychologists have subdivided this universe into environmental, task, and organismic variables (Ericksen, 1967).

While the bulk of educational research deals primarily with the environmental and task variables, in recent years, organismic variables have elicited mounting attention (Cronbach, 1957; Gagne, 1967; Hullfish, 1963; Thelen, 1967). Organismic variables are those brought to the formal learning situation by the student himself. They are those personal characteristics, such as motivation, intelligence, and past experience, in which individuals differ. Ericksen (1967) and Cronbach (1967) advocated that it is these factors which are most important in determining how much and how rapidly the student learns.

Instructional methods rarely take into account these differences. For years, experienced teachers have said no one teaching method succeeds with all kinds of students (McKeachie, 1963), but research neither proved nor disproved their hypothesis. It became the respons-

ibility of the effective teacher to adapt his method to individual students phenomenologically. He barely acknowledged the comment of one student in group discussion but stopped to praise the lesser contribution of another because he felt special encouragement was needed. He turned away one pupil who asked for help and walked the length of the classroom to help another, deciding to encourage independence in the one and to minimize frustration in the latter. On a larger scale, he not only allowed options for a term paper, but may have custom-tailored a project for the student with special abilities or limitations (Cronbach, 1967). The significant thing about these adaptations is their informality; there is reason to think that intuitive adaptations of this kind occasionally may be harmful (Cronbach, 1955; Cronbach and Gleser, 1965), and; at best, they are inefficient.

Precise information defining the inter-relatedness of instructional techniques and learner characteristics is demanded. Bettelheim (1969), Jackson (1965), Hullfish (1963) Siegel (1967), and Thelen (1968) have echoed the argument put forward by Cronbach (1957). Instructional techniques and persons must be dealt with simultaneously. There is no "best" instructional arrangement, but rather optimal instructional arrangements for particular types of learners.

Educators have not been unaware of individual differences. Although unsystematic, their concern with adaptations to the needs of the student is a familiar theme. Over the decades, it has proved the only justification and basic premise for countless innovations and experiments. In current educational reform, much of this motion is oriented toward greater student participation and responsibility (Glasser,



1966). The theories of client-centered counseling (Rogers, 1942) and Lewinian group dynamics (Lewin, Lippitt, and White, 1939) caused educators to look askance at the traditional, instructor-dominated classrooms of Academia. An upsurge of interest in discussion techniques and student-centered learning resulted.

While not the educational panacea it was first thought to be, the student-centered approach has survived. Factual knowledge appears to be disseminated about equally well in both lecture and less-structured learning situations. The unique contribution of student-centered teaching comes in the facilitation of higher-order cognitive processes and non-cognitive changes (Ebel, 1969; McKeachie, 1967).

Because much of the impact of a student-centered technique is in the realm of affect, it would follow that a student's attitude toward the class would be important in forming the emotional effect such a class would have. Following the assumptions of Pervin (1968) and Siegel and Siegel (1967), the student with very negative reactions toward a course would not be expected to benefit as much as the student with a more favorable outlook.

In this study, subjects were divided into two groups on the basis of their favorable or unfavorable reaction to a student-centered class. Personality tests were administered in an attempt to explore those social-psychological variables that influence attitude and learning in a student-centered setting.

### Statement of Problem

What are the personological variables that operate in students to bring about a favorable or unfavorable attitude toward a student-centered instructional approach? Do those students who like such an approach perform better on course examinations than those who do not?

### Statement of Hypotheses

A review of educational research presents contradictory answers. If an interaction between learners and instructional techniques does indeed exist, it is difficult to define and frequently becomes evident in unexpected directions. The following hypotheses to be tested are, therefore, stated in the null form.

1. There are no significant differences in personality characteristics, as measured by the Edwards Personality Preference Schedule (EPPS), of those students who have a positive attitude toward a student-centered approach and those who do not, as measured by the Survey of Opinion (SOO).

2. There are no significant differences in personality characteristics, as measured by the California F Scale, of those students who have a positive attitude toward a student-centered approach and those who do not, as measured by the SOO.

3. There is no significant difference in intelligence, as measured by the Otis-Lennon Mental Ability Test, Advanced Level, of those students who have a positive attitude toward a student-centered approach and those who do not, as measured by the SOO.

4. There are no significant differences in performances, as measured by four objective, multiple-choice examinations, of those students who have a positive attitude toward a student-centered approach and those who do not, as measured by the SOO.

#### Purpose of the Study

The purpose of the present study was to identify those personality characteristics which differentiate between college students who like a student-centered approach and those who do not. The study further proposed to examine the relationship between those attitudes and performance on course examinations.

#### Significance of the Study

American democracy is committed to the significance of individual differences. The creative society is believed to come about only through the nurturance and inspiration of its individual members. Its strength becomes the power to provide for citizens opportunities and rewards commensurate with abilities in order that the highest levels of performance and potential may be reached. To American education falls a large measure of the task.

If it is indeed true that:

Certain features of the institutional environment which are congruent with a particular idiosyncratic drive pattern have the power to facilitate performance. (And) Certain features of the institutional environment which are dissonant with an idiosyncratic drive pattern have the power to inhibit performance (Siegel and Siegel, 1967, p. 323).

The problem is defined. If the interaction between instructional format and student aptitude can be found, the following advantages are expected

to accrue (Glasser, 1966):

1. Self-resourceful and self-appraising learners will be fostered. The primary burden of initiating and maintaining learning will shift from the teacher to the student.

2. Since the environment is adapted to the purposes and requirements of the learner, the possibilities of any one individual attaining competence will be enhanced. A realistic sense of achievement will develop, further encouraging the utilization of abilities.

3. Theoretically, an ideal situation could exist. An institutional program would begin by a detailed diagnosis of the student's learning habits and attitudes, achievement, skills, cognitive style, motivation, et. cetera. A prescription for an instructional course, specifically tailored to individual needs, would be made. In such a method, the existing aptitude patterns could be both capitalized on and modified (Cronbach, 1967). Conceivably in this procedure, students would learn different subjects in different ways - some of their own discovery, some by more structured methods, some by reading, and some by lectures.

Such an appealing educational climate, however, can be only in theory. Explorations of aptitude-treatment-interaction are not complete. Often they have been only insignificant parts of general works in the field of personality rather than works on instruction or even on the psychology of learning. At best, the control of treatments is difficult. Moreover, the state of thinking about personality variables, in relation to instruction, is in such a primitive state that Cronbach and Snow (1969) have viewed planned treatments as immature. This study

attempts to investigate that undifferentiated relationship, in the hope that ultimately instructional procedures can be more optimally aligned with individual differences among students.

### Definition of Terms

Student-centered. A wide variety of teaching methods have been grouped under the labels "student-centered," "nondirective," "group-centered," or "democratic," discussion. They have the common objective of offering an alternative to the traditional instructor-dominated classroom in an attempt to encourage greater student participation and responsibility. McKeachie (1962, p. 328) has compiled a list of ways in which the student-centered method may differ from the instructor-centered class. (See Table 1).

The cognitive processes. Bloom (1956) defined six skills as falling within the cognitive domain: memorization, comprehension, application, analysis, synthesis, and evaluation. These skills are conceived as making up a heirarchical structure with memorization being the basic, lowest level skill and the remaining skills going up the hierarchy in the order given.

Non-cognitive changes. Changes in the area of affect or attitude.

### Limitations of the Study

Findings of the present study are from students enrolled in educational psychology, Py 334, at Kansas State Teachers College. They are as valid as the assumption that the course was indeed student-centered. It was considered to be so for the following reasons:

Table 1

Dimensions upon Which Student-Centered and  
Instructor-Centered Methods May Differ

Student-Centered	Instructor-Centered
<b>Goals</b>	
Determined by group (Faw, 1949)	Determined by instructor
Emphasis upon affective and attitudinal changes (Faw, 1949)	Emphasis upon intellectual changes
Attempts to develop group cohesiveness (Bovard, 1951)	No attempt to develop group cohesiveness
<b>Classroom Activities</b>	
Much student participation (Faw, 1949)	Much instructor participation
Student-student interaction (McKeachie, 1951)	Instructor-student interaction
Instructor accepts erroneous or irrelevant student contributions (Faw, 1949)	Instructor corrects, criticizes, or rejects erroneous or irrelevant student contributions (Faw, 1949)
Group decides upon own activities (McKeachie, 1951)	Instructor determines activities
Discussion of students' personal experiences encouraged (Faw, 1949)	Discussion kept on course materials
De-emphasis of test and grades (Asch, 1951)	Traditional use of tests and grades
Instructor interprets feelings and ideas of class members when it is necessary for class progress (Axelrod, 1955)	Instructor avoids interpretation of feelings
Reaction reports (Asch, 1951)	No reaction reports

1. The course gave extended opportunity for student-to-student interaction. The class met in large sections of approximately sixty students, primarily for lectures, once a week. While in the other two sessions, the class was divided into two groups for discussion. Students worked in small groups of two or three in role playing and team teaching activities. In conjunction with the unit on experimentation, these small groups performed and presented an experiment in written and oral form. These projects were mimeographed and given to each member of the discussion group, thereby capitalizing on peer evaluation. Group cohesiveness was attempted by encouraging each student to know, by name, each member of his group, and autobiographies were utilized in early learning activities. Tutoring and observation-participation experiences stressed interpersonal interaction.

2. Attitudinal and affective positions were emphasized. Individual self-understanding, change, and growth were course objectives. The Otis-Lennon, the California F Scale, and a personal estimate inventory, measuring the discrepancy between actual and ideal self, were administered.

3. The testing process was designed to help the student pass the course. The unit tests could be taken as many times as required for a student to attain his desired level of competence. The score earned on the pretest was compared to that of the posttest, and as a measure of growth, was considered in the final grade.

4. Maslow (1970) defined the core of student-centered methods as an attitude. The instructor of educational psychology is noted for his interest in student feelings and needs. His office was open throughout

the day. He, or a teaching assistant, was readily available. For a part of the semester, the class was dismissed for one hour a week to allow individual consultation. Class attendance was not required and much of the scheduling was the student's responsibility.

The class, however, was not completely without structure. General goals and course objectives were established by the instructor. Although attendance was not required and did not effect the grade, roll was kept. Student-centered courses are, by definition, more flexible than traditional ones. Because this course was yet experimental and because six assistants were involved, the possibility of disorganization was inherent in the structure. This was a criticism of many who disliked the course.

A second limitation of the present study is the conception of personality in segregated traits. There is the possibility that traits measured by the EPPS would yield more complete information when conceived in clusters through computer pattern analysis (Edwards, 1959).



## Chapter 2

### REVIEW OF LITERATURE

Quests for holy grails are notoriously messy affairs. The Lancelots of educational research have found it no less so. Not only are insignificant differences the expected bill of fare, but contradictions, ambiguities, and unreplicated findings abound.

Although for half a century, experimenters have attempted to define effective teaching, their research is unimpressive (McKeachie, 1962). Hundreds of investigations have been carried out comparing such teaching methods as lecture vs. discussion, large vs. small classes, and television vs. live instruction. And while some noteworthy deductions have been made, few conclusive principles have resulted.

These meager findings are undoubtedly dependent on a number of factors. Probably the most obvious is the problem of criteria. What is effective? Objective course examinations, which are the primary measurements utilized, are limited to begin with by the kinds of things they measure. In addition, they can easily mask, or even misinterpret, the variables operating (McKeachie, 1962).

Methodology becomes an almost overwhelming problem. Rarely are exactly the same measures used in two experiments. If they are, frequently they're interpreted in terms of different constructs. Almost never do experiments employ two operational indicators of the same construct, imperative to the defense of one hypothesis over the competing

interpretations always available. Statistical analysis is often naive (Cronbach and Snow, 1969).

Goldberg (1969) suggested that no differences result because the teaching methods themselves do not radically differ. Instructors offer to students essentially identical approaches in a bright array of linguistic packaging. Many point to the complexity of naturalistic research. When a classroom becomes the laboratory, variables compound in geometric progression. For a discussion of this area, discouraging in its honesty, the reader is referred to McKeachie (1961).

Lastly, and the reason in vogue to account for this gray mountain of insignificant difference, is to contend that organismic variables are not properly considered. The methods beneficial for one are detrimental to the achievement of another. When results for both subjects are averaged, little over-all difference between methods is found and no over-all effect of personality is identified (Cronbach, 1957; Cronbach and Snow, 1969; Goldberg, 1969; McKeachie, 1961, 1962, 1963; Siegel, 1967).

This concept, that students and instructional technique are inter-woven, is not new. While Cronbach (1957) may be credited with popularizing trait-by-treatment interaction, the position was not original. The statistical notion is at least as old as analysis of variance, and the theoretical foundations as traditional as the S-O-R formulations of Hull. Industrial psychology has always attempted to match men to jobs; is it any less reasonable to attempt to match students to colleges (e.g. Austin, 1963, 1965; Austin and Holland, 1961; Pace and Stern, 1958; Pervin, 1967, 1968) or instructional format to individual learners

(Goldberg, 1969)?

The literature considering this question is massive. For an excellent review of interactional research the reader is referred to Cronbach and Snow (1969); for a comprehensive survey of teaching in general, to Sanford (1962) and Gage (1963); and for a more complete analysis of student-centered approaches specifically, to Anderson (1959), Birney and McKeachie (1955), and McKeachie (1963, 1967).

The studies in this chapter were chosen (1) to establish the validity of the student-centered approach by examining the outcome in terms of both cognitive and non-cognitive results, and (2) to explore those factors of personality hypothesized as affecting those results.

#### Outcomes of a Student-Centered Instructional Approach

Cognitive achievement. Mastery of factual content appears to be largely unaffected by class structure. The majority of investigators attempting to measure differences in lower-level cognitive achievement between teacher-centered and student-centered courses report no particular advantages for either approach (as can be seen from Table 2 of Stern, 1963, p. 427).

An exception is the study of Faw (1949). Subjects were 102 students who met two hours a week in lecture and two hours a week in discussion groups of thirty-four. One of the discussion groups was taught by a student-centered method, one by an instructor-centered method, and one group alternated between the two methods. Scores on the objective course examination showed small but significant differences favoring the student-centered approach.

Table 2

Relative Advantages of Nondirective over Directive Instruction in Influencing Two Types of Learning Outcome

Attitude Change (Self or Others)	Gain in Achievement of Cognitive Knowledge and Understanding		
	Negative	No Difference or Unmeasured	Positive
Positive	Asch (1951)	Anderson & Brewer (1946) Anderson, Brewer & Reed (1946) Anderson & Kell (1954) Bills (1952) <sup>a</sup> Bills (1956) <sup>a</sup> Bovard (1951 <sup>a</sup> , 1951 <sup>b</sup> ) Bovard (1952) DeLong (1949) <sup>b</sup> Di Vesta (1954) Flanders (1951) <sup>a</sup> Gross (1948) Lewin, Lippitt, & White (1939) <sup>a</sup> Patton (1955) <sup>a</sup> Wieder (1954) <sup>b</sup>	No cases reported
No Difference or Unmeasured	Brookover (1943, 1945) <sup>c</sup> Burke (1955) Calvin, Hoffman & Harden (1957) Guetzkow, Kelly, & McKeachie (1954) <sup>b</sup>	Deignan (1955) <sup>a</sup> Eglash (1957) Fersh (1949) Johnson & Smith (1953) <sup>c</sup> Krumholtz & Farquhar (1957) Lagey (1956) Landsman (1950) <sup>c</sup> McKeachie (1954 <sup>a</sup> ) <sup>b</sup> McKeachie (1954 <sup>b</sup> ) Slomowitz (1955) <sup>a</sup> Ward (1956) R. P. Watson (1956) <sup>c</sup> Wispé (1951)	Faw (1949) Thompson & Tom (1957)
Negative	No cases reported	No cases reported	No cases reported

<sup>a</sup>Expressed student satisfaction with student-centered class.

<sup>b</sup>Expressed student dissatisfaction with student-centered class.

<sup>c</sup>Mixed student reaction to student-centered class.

Thompson and Tom (1957) utilized twenty-two high school teachers of vocational agriculture. Half employed a teacher-centered approach and the other eleven, a student-centered one. The student-centered group was superior in terms of gain in content but not significantly different with respect to measures of problem-solving in agriculture or attitudes toward farming.

Rubadeau (1967) divided 141 freshman psychology students into three groups: teacher-centered, student-centered, and no-instructor instruction. Effectiveness, as measured by three objective examinations, was not significantly different for the three methods. Students in the student-centered group learned more efficiently, i.e. in less time, as measured by each subject's study-learning time log.

In an experiment similar to Faw's, Asch (1951) recorded results more in accordance with general findings. On the final examination, students in the instructor-centered class scored significantly higher than members of the student-centered class. It must be considered, however, that for the student-centered group the examination did not effect grades, while for the control group it did.

Following the model of Lewin, Lippitt, and White's study (1939), the staff of the University of Michigan's general psychology course set up an experiment using three styles of teaching: recitation, discussion, and group tutorial (Guetzkow, Kelly, and McKeachie, 1954). In comparison to discussion and tutorial methods, the more authoritarian recitation method produced not only superior performance on the final examination, but also greater interest in psychology as measured by the election of advanced courses in psychology.

Coop and Brown (1970) analyzed subject matter achievement in three areas: factual content, conceptual-generalization content, and total content. Data from eighty college subjects indicated that a teacher-structured-presentation method of instruction was significantly superior to an independent-problem-solving method of instruction on all three dependent measures.

Retention of material has seldom been investigated. Bane (1931) and Rickard (1946) found retention of material to be superior in groups taught by the discussion method, while Eglash (1954) found no difference. Ward (1956) found greater retention of "understanding-type" learning among students with greater academic ability under discussion procedures but found greater retention of such material under the lecture method with students of lower ability. Further, students of lesser ability showed greater immediate recall of information under the lecture method, whereas the method made little difference in such performance on the part of the more able students.

Between lecture and discussion methods, the preponderance of literature reports no significant differences in cognitive achievement. Although, "there may be some slight advantage for the lecture method in promoting mastery of factual materials, better retention and interpretation are associated with discussion (Stern, 1963, p. 427)."

Non-cognitive achievement. Regardless of whether the experimenter measured attitudes toward a cultural outgroup, toward class members, or toward the self, results have indicated that nondirective instruction facilitates a shift in the more favorable direction. Thus McKeachie (1967) summarized as follows:

In 11 studies, significant differences in ability to apply concepts, in attitudes, in motivation, and in group membership skills have been found between discussion techniques emphasizing free student participation compared with discussion with greater instructor dominance. In 10 of these the differences favored the student-centered method. The eleventh had mixed results [p. 219].

In the Asch study (1951) a greater percentage of the student-centered class improved in adjustment as measured by the Minnesota Multi-Phasic Inventory. This is supported by the work of Faw (1949), Zeleny (1940), and Moore and Poplan (1959).

Gibb and Gibb (1952) reported that students who were taught by their "participative-action" method were significantly superior to students taught by traditional lecture-discussion methods in role flexibility and self-insight. They also found that in non-classroom groups, the participative-action students were rated higher than other students in leadership, likableness, and group membership skills. DiVesta's results (1954) tend to support this finding, and Anderson and Kell (1954) reported that student-centered groups are characterized by positive attitudes toward themselves as participants.

In the studies of Bovard (1951) and McKeachie (1951), a student-centered and a teacher-centered class were shown the film, "The Feeling of Rejection." Clinical psychologists evaluated recordings of the class discussions which followed. Both clinicians reported that the group-centered class showed more insight and understanding of the film's protagonist.

It would appear that the choice of instructor-centered versus student-centered discussion depends upon goals. "The more highly one values outcomes going beyond knowledge acquisition, the more likely

that student-centered methods will be preferred" (McKeachie, 1967, p. 220).

### Subject Variability

Preference for instructional method. Student preference for particular types of classroom atmospheres were actually noted but given little significance in an early report by Lewin, et. al. (1939). They had observed that an Army officer's son was one of the few children to prefer the autocratic climate. Johnson and Smith (1953) found that a member of a student cooperative was the most enthusiastic member of their democratic section.

More systematic experimentation has not found so clear-cut a relationship. In the study by Faw (1949), one of the evaluation factors was the student's preference for instructional method, as measured by a preference scale. It was concluded that the students preferred the method by which they were taught, i.e. there were no differences between groups in terms of preference for instructional method.

In the University of Michigan studies (Guetzkow, et al., 1954), the recitation method was preferred. McKeachie (1951) suggested that the method's popularity is related to student anxiety about grades, which is most easily handled in familiar, highly structured situations. This was also the conclusion of Wispe (1951) in his study of directive and permissive teaching styles. He found that the directive sections were preferred by the majority of students because they were clearly defined and better prepared students for an objective examination. However, the permissive sections were more enjoyed.

Krumboltz and Farquhar (1957) categorized subjects on the basis



of their original preference for teaching method. They found that students who originally expressed a preference for instructor-centered instruction increased their self-ratings of study habits and attitudes by receiving such instruction. Students who originally preferred a student-centered type of instruction tended to have lower self-ratings when exposed to instructor-centered instruction. Preferences did not appear to be related to any of the other variables.

Following the assumption of Gross (1959) that people function most effectively in situations which conform to their preferences, it would be expected that a student-centered class would have more effect on those students who liked such an approach. Pervin (1968) found that there are environments which more or less match personality characteristics. A "match" or "best fit" of individual to environment is viewed as expressing itself in high performance, satisfaction, and little stress in the system, whereas a "lack of fit" is viewed as resulting in decreased performance, dissatisfaction, and stress in the system.

This is consistent with the findings of Epley (1953) who reported that students with positive reactions to their teachers were more likely to grow tolerant than those with negative feelings. It will be noted in Table 2 that most of the studies reporting favorable attitude changes were also accompanied by positive student reactions to nondirective instruction.

Harris, Kiefert, and Darby (1969) examined attitudes toward a beginning course in educational psychology. A twenty-one item attitude inventory was administered at the course midpoint and end. The first half of the course was conducted on a lecture-discussion basis and its

effectiveness measured by an objective test. Classroom organization was shifted to a student-centered pattern in the second half of the course. Students presented and analyzed in a written report team-teaching demonstrations. Large lecture sections were split into groups of fifty. Under the guidance of the instructor or a teaching assistant, groups developed behavioral objectives, a means of appraisal, and detailed their operational procedure and responsibilities. T tests revealed positive change in student attitude when the course was changed from teacher-centered to student-centered on sixteen of the twenty-one items. Of these sixteen items, thirteen were significant at, or beyond, the .001 level.

However, at least as many students feel dissatisfied, frustrated, or anxious in a nondirective classroom as consider it valuable. Of the sixteen studies recorded in Table 1, student reaction was favorable in nine, unfavorable in four, and there was a mixed reaction in five. As McKeachie (1951) has suggested, these ambiguous results may reflect anxiety due to the absence of formal structure. Wispe (1951) and Patton (1955) have demonstrated that student attitudes toward class structure were highly selective. It is suggested that the relevant characteristics are broader and more complex than a mere preference or distaste for group discussion and reside in the student's personality structure (Stern, 1963).

Intelligence. In Wispe's (1959) study of directive and permissive instructional methods, each of the sections was proportionately composed of individuals who had scored high, average, or low on a scholastic aptitude test. He found that the directive instructional method was more beneficial to the students who scored low on the academic ability measure,

while those with average or high scores appeared to benefit more from the permissive instruction.

The study of Calvin, Hoffman, and Harden (1957) yielded results in a similar direction. It was suggested that the mere creation of a permissive climate is not a sufficient, though it may be a necessary, condition of more effective teaching and group problem-solving. They found that permissiveness with individuals of high intelligence yielded better learning than did a traditional learning situation with bright students or a permissive situation with average students. The permissive situation, in fact, tended to handicap subjects with average intelligence.

Ward's (1956) results also suggest that the ablest students benefit most from small groups. Comparing group study and lecture-demonstration methods in a physical science course, he found that the group method resulted in better achievement on a measure of understanding and problem-solving for the abler students. The poorer students, however, benefited more from lecture-demonstration.

Rubadeau (1967) found that high ability students, as measured by the College Entrance Examination Board, performed significantly better than those of low ability under all methods of instruction. The high and low ability students, however, did not have significantly different outcomes under any one instructional method.

Krumboltz and Farquhar (1957) found no significant achievement outcomes in relation to ability level. In addition, there was no tendency for bright students to have any different outcomes under one teaching method as compared to another.

Independence. In a pioneering study by Wispe (1951), subjects in directive and permissive sections of a general social science course were administered (1) a TAT-type test using pictures of teaching situations; (2) Stein's sentence completion test; and (3) a twenty-five item questionnaire on attitude toward sections, on interests, and on feelings of students in sections. In response to the questionnaire three types of students were identified: (1) a group which, regardless of teaching received, "wanted more direction;" (2) another group which, regardless of the kind of teaching received, "wanted more permissiveness;" and (3) a group which was "satisfied," regardless of the kind of teaching received.

Those subjects who wanted more direction (51%) were characterized by intro-punitiveness, and by negative attitudes towards sections, instructors, and fellow students. This applied to subjects in both teaching methods. However, the group which was directionally taught reported feeling "tense" and "constrained in class." Those permissively taught reported feeling "free" and "relaxed to recite," although they were the most critical of all groups.

Those subjects who wanted more permissiveness (23%) held moderately favorable attitudes towards instructors, sections, and fellow students, and exhibited a high degree of extra-punitiveness. The object of their extra-punitiveness, as well as certain classroom feelings, varied with the teaching method utilized. Of those receiving permissive instruction, two-thirds reported "feeling relaxed" and "free to recite in class," and they aggressed against nonpersonal objects. The subgroup which was directly treated reported "feeling tense" and "constrained in

class" and aggressed against the instructor.

The satisfied students (26%), distributed equally between permissive and directive sections, were positively oriented towards section, instructor, and fellow students. The group showed fewer indications of intro- and/or extra-punitiveness.

Wispe' concluded that the student desiring more permissiveness was apparently a fairly secure independent individual whose adjustments to the situation were aided by his habits of extra-punitiveness. The student desiring more direction exhibited insecurity in a demand for an abnormal amount of structure and a high degree of egocentric intro-punitiveness.

A cluster of variables related to Wispe's, is Patton's (1955) "acceptance of responsibility for learning." Patton found that the degree to which the student accepted responsibility was positively correlated with gain in psychological knowledge, gain in ability to apply psychology, rating of the value of the course, and interest in psychology. Those students who liked his experimental class and assumed responsibility were likely to be independent of traditional authority figures and high in need for achievement.

McKeachie (1961) utilized Thematic Apperception Test protocols to measure the need for power. He found that students who scored high in power motive enjoyed leadership and recognition and were rated by instructors as high in argumentativeness and in frequency of trying to convince others of their point of view in the classroom. It was hypothesized that the student high in power motivation would achieve well in classes characterized by a high proportion of student volunteering.

The hypothesis, as measured by course grade, was confirmed for males. There was no significant difference for female students.

Amidon and Flanders (1961) found, however, that it was the dependent students who profited most from a nondirective approach. The dependent student learned more in the classroom in which the teacher gave fewer direction, less criticism, less lecturing, more praise, and asked more questions increasing verbal participation. It appeared to the experimenters that as the teacher became more directive, the dependent student found increased satisfaction in more compliance often with less understanding of the problem. Results suggest that subject matter is an important variable in teaching approach (Siegle, 1967), for the consistent trend in the literature is to find that the student who likes and does well in less structured classroom situations are those characterized as independent, flexible, and in high need of achievement (McKeachie, 1963).

Authoritarianism. Haigh and Schmidt (1956) found those students preferring a student-centered class to be more flexible, more understanding and accepting, and better able to cope with inconsistencies and ambiguities. Those students preferring a teacher-centered class were concrete, ordered, and exhibited less self-insight.

Haythorn, et. al. (1953) has shown significant relationships between the characteristic performance of small groups and the essentially autocratic or equalitarian personality traits of group members. This was confirmed by Mayhew (Stern, 1963). He reported that while a section of nonauthoritarian students in a social science class at Michigan State University, taught by nondirective methods, performed significantly bet-

ter than the rest of the student body enrolled in the course, the same methods applied in a section of authoritarian students elicited such violent reactions that the instructor shifted to formal lectures.

A similar observation was made by Neel (1959). Prompted by the bitter complaint and extreme dissatisfaction voiced by some students in regard to the discussion-group nature of her class, Adorno's F scale was administered. There was, however, no significant difference in a student's reaction to the course and his identification as an authoritarian personality. There was a difference between high and low authoritarian subjects in their ability to deal with particular learning situations. While high authoritarian subjects were as successful learning factual material as the low authoritarian students, they were significantly lower in their ability to deal with ambiguity and humanitarian philosophy.

In the experiments of Stern (1962), authoritarians, as measured by his Inventory of Beliefs, were the subjects who profited most from a discussion class. Authoritarian and nonauthoritarian subjects were segregated in two sections of a citizenship course. Previously, authoritarian students did not like the course and did not do well in it. In this experiment, those authoritarian students assigned randomly to regular sections did worse than other students, but the authoritarians assigned to the special section achieved as well as the nonauthoritarians in the nonexperimental sections. The instructor found, however, that authoritarians were the most difficult to lead into discussion and experienced "a constant temptation to lecture rather than discuss" (Stern, p. 698). By using many direct questions, encouraging student responses, and by vigorously defending absurd positions, which even

authoritarian students would argue against, his teaching was effective. It should be noted that the authoritarian students were homogeneously grouped and required specialized techniques for discussion to be successful.

Affiliation. McKeachie and his associates (McKeachie, 1961; McKeachie, Lin, Milholland, and Isaacson, 1966) studied extensively the affiliation motive in students. In three studies, subjects high and low in affiliation motivation were identified by the TAT. Classrooms were rated, by the students or trained observers, as either high or low in affiliation cues. It was found, in the first study, that for all students in psychology and for male students in mathematics, those who had high affiliation motivation made significantly higher grades in those classes rated high in affiliation cues. The hypothesis did not hold for the women, however; women low in affiliation motive tended to prefer the classes with high affiliation cues.

Beach (1960) used, as a measure of sociability, the social introversion-extraversion scale of Guilford's Inventory of Factors, STDCR. Experimental groups were: lecture sections, discussion sections, instructorless small groups, and independent study. Precourse measures established no differences in sociability or achievement between groups. Postcourse measures revealed that the less sociable student achieved significantly more in the lecture sessions than did the more sociable student; the reverse held true for subjects in the autonomous small groups. The results in the discussion group were in the direction opposite of what was expected. The less sociable students were the high achievers. No differences in achievement were found under independent study.



Tallmadge and Shearer (1968, 1969, 1971), in their studies of trait-by-treatment interaction in military training programs, found disappointingly few significant variables. However, they confirmed the trend that introverted subjects generally achieve better in structured programs.

The Goldberg Study. One of the most thorough investigations of trait-by-treatment interaction is that of Goldberg (1969). Two college courses (N = 806) were studied concurrently under four different teaching conditions: lecture-quiz, lecture-paper, self-study-quiz, and self-study-paper. Not only did this allow for a comparison of these methods specifically, but also a study of the effects of structure. Ordered on this dimension, the lecture-quiz sections clearly provided the most structure, while the self-study-paper sections were probably as unstructured as occur on the undergraduate level.

A complete battery of personality inventories was administered yielding more than 2,000,000 individual-item responses. These were correlated with three criterion variables: course achievement, course satisfaction, and amount of nongraded reading. The effects of the experimental variations in teaching methods were examined by means of an analysis of variance and point biserial correlations between the subjects instructional format and his score on criterion variables.

Although not statistically significant, interactions between the EPPS and course satisfaction stemmed from negative correlations between the exhibition, aggression, and dominance scales and satisfaction in the lecture-paper section. There were few interactions involving the EPPS and course achievement in self-study but not in lecture. Among females,

affiliation was negatively correlated with achievement in the quiz section and positively correlated in the paper section.

However, the experimental treatment variations did not produce any statistically significant effects common to both courses. All treatment effects were either nonsignificant in both courses (nine out of fifteen analyses), significant in one but not in the other (five analyses), or significant in both courses but opposite in direction of effect (one analysis). Goldberg's (1969) summarization aptly concludes this experimental survey.

In general, for each of these three criteria and each of the two major variations in experimental teaching conditions, some 350 a priori personality scales produced a few dozen significant interaction effects. All of these interactions could have arisen by chance alone, and none of them were truly large in magnitude. These results can hardly be interpreted as providing overwhelming support for interaction hypotheses [p. 115].

## Chapter 3

### PROCEDURE

Subjects: Questionnaires concerning the class, Py 334, Educational Psychology, were given to three teaching assistants. McKeachie's (1962) dimensions of instructional methods were presented in fifteen pairs of polar statements; the assistants were instructed to circle the statement which better described the structure of educational psychology. On nine of the eleven dimensions, the student-centered response was chosen.

The sample size selected was sixty-five, or 25% of the students enrolled in educational psychology at Kansas State Teachers College in the 1971 spring semester. To insure a sample representative in intelligence, the Otis-Lennon Mental Ability Test was administered to all students and the range of scores divided into quarters. The course was set up in four sections with each section divided into two groups. In each group, students were placed in quarters and the median of each quarter determined. Two students were chosen from the middle portion of each quarter. The sixty-fifth subject was randomly selected. If several students had the same IQ, or IQ's differing by one point, sex and cumulative grade point average effected selection.

In this way, thirty-three males and thirty-two females made up the sample. Cumulative GPA's were divided into quarters with subjects' averages spanning, as equally as possible, the range: thirteen in the first quarter, twenty in the second, nineteen in the third, and thirteen in the fourth. IQ's, as measured by the Otis-Lennon, were equally

distributed. Each section and each group of the class was equally represented.

### Description of tests

In addition to the Otis, subjects were administered a Survey of Opinions (SOO), the Edwards Personality Preference Schedule (EPPS), and the California F Scale. Performance was measured by course examinations.

#### The Otis-Lennon Mental Ability Test Advanced Level, Form J.

The tests in the Otis-Lennon series are group-administered and measure broad reasoning abilities. The Advanced Level, Form J, is comprised of eighty items including word meaning, verbal analogies, scrambled sentences, interpretation of proverbs, logical reasoning, number series, arithmetic reasoning, and design analogies, arranged in spiral omnibus form. It yields a Deviation IQ with a mean of 100 and a standard deviation of sixteen points. The standard error of measurement is four points.

Reliability has been computed by split-half and Kuder-Richardson procedures. The coefficient, for both methods, is .95 (Otis and Lennon, 1967). Darbes (1960) correlated the Otis with the American Council on Education Psychological Examination (ACE) and the Wechsler Adult Intelligence Scale for ninety-nine college students. The correlation coefficient for the Otis and the WAIS was +.749, for the Otis and ACE, +.670.

Survey of Opinions. The SOO was developed by Krumboltz and Farquhar (1957). Its purpose is to provide a quantitative measure of student attitudes toward a class on a favorable to unfavorable continuum. Including only those items relevant to this study, seven statements are presented with five alternatives, stated in percents (See Appendix A).

The student estimates what percentage of the time he feels a certain way toward the manner in which instruction is being given. The item is scored from one to five points with the highest number signifying the most favorable attitude. The internal consistency of the SOO, as computed by the Kuder-Richardson Formula 21, is .736.

To the questionnaire, two additional statements were added to control for the personal likability of the instructor and the teaching assistant. Responses to these questions were not added in the scoring but were compared for the two groups. An open-ended question was also included which yielded qualitative data only (See Appendix A). The questionnaire was administered during the final two weeks of the semester.

Edwards Personality Preference Schedule. The EPPS measures fifteen relatively independent variables of the normal personality. It consists of 210 pairs of items, carefully equated for social desirability, in a forced-choice format. The subject is instructed to choose the statement in each pair that he believes to be more characteristic of himself. The result is a profile of competing needs as opposed to the absolute strength of one need.

The statements in the EPPS, and the variables that these statements purport to measure, have their origin in the manifest needs listed by Murray. They are: achievement, deference, order, exhibition, autonomy, affiliation, intraception, succorance, dominance, abasement, nurturance, change, endurance, heterosexuality, and aggression (for definitions, see Appendix B). Internal consistencies range from .60 to .87, and retest correlations from .74 to .88 (Edwards, 1959).

California F Scale. Developed by Sanford, Adorno, Frenkel-

Burnswik, and Levinson, the F Scale was published in The Authoritarian Personality (1950). The form utilized in the present study (See Appendix C) was published in Rokeach (1960). The F stands for fascism, and the scale was constructed with a two-fold purpose: it was designed as an indirect measure of prejudice without mentioning the names of any specific minority group; and it was to measure underlying personality predispositions toward a fascistic life orientation.

As work on the test progressed, a number of variables, concepts functionally related to prejudice and approachable by F-type items, were defined. These were regarded as central trends in the person expressed on the surface in ethnocentrism and psychologically related opinions and attitudes. These variables constituting the basic content of the F Scale are:

1. Conventionalism. Rigid adherence to conventional, middle-class values.
2. Authoritarian submission. Submissive, uncritical attitude toward idealized moral authorities of the ingroup.
3. Authoritarian aggression. Tendency to be on the lookout for, and to condemn, reject, and punish people who violate conventional values.
4. Anti-intraception. Opposition to the subjective, the imaginative, the tender-minded.
5. Superstition and stereotypy. The belief in mystical determinants of the individual's fate; the disposition to think in rigid categories.
6. Power and "toughness." Preoccupation with the dominance-submission, strong-weak, leader-follower dimension; identification with power figures; overemphasis upon the conventionalized attributes of the ego; exaggerated assertion of strength and toughness.
7. Destructiveness and cynicism. Generalized hostility, vilification of the human.
8. Projectivity. The disposition to believe that wild and dangerous things go on in the world; the projection outwards of unconscious emotional impulses.
9. Sex. Exaggerated concern with sexual "goings-on."  
(Adorno et. al., 1950, p. 228).

The variables were hypothesized as clustering together to form a single syndrome, a more or less enduring structure that rendered the person receptive to antidemocratic propaganda.

Each statement is marked from a +1, "I agree a little," to -3, "I disagree very much." To each item +4 is added, yielding a composite score. The higher the number, the more conservative the subject. In the initial process of item analysis, by means of the Liekrt technique, a split-half reliability of .90 was attained. Eysenck has reported an unpublished factor analysis of some of the original California data by Melvin which yielded a single factor. This finding, however, has not been replicated, and most subsequent studies do not report the reliability of the F Scale. It appears to be lower than the initial .90 and to vary from sample to sample. In one report, split-half reliabilities ranging from .34 to .78 were found in different samples on the same ten F Scale items (Cristie and Cook, 1958). For a more detailed analysis of methodology, the reader is referred to Hyman and Sheatsley (1954).

Performance tests. Performance was measured by three multiple choice examinations (see Appendix D) administered throughout the semester. A comprehensive examination of 100 items was given during the first week and again during the final week. Two unit tests, of fifty-five and forty-five items respectively, were administered. Content covered the textbook, Educational Psychology in the Classroom (Lindgren, 1967), and class material. Unit examinations were given twice, in two successive class meetings; additional administrations were possible through individual appointment.

Statistical procedures. The original sample was divided into two groups based on SOO scores. Raw scores ranged from seven to thirty-three (out of a possible seven to thirty-five). To deliniate between these groups more sharply, only the upper and lower 40% of the distribution was considered. The final sample consisted of fifty-two subjects, with twenty-three subjects (fourteen males and nine females) student-centered and twenty-nine subjects (eleven males and eighteen females) non-student-centered. Scores for the two groups were compared by analysis of variance.

For the personality traits measured by the EPPS and the California F Scale, a double classification analysis of variance corrected for disproportionality was utilized. Raw scores were classified on the dimensions of course reaction and sex. In the normative sample, on twelve of the fifteen EPPS needs, means for males and females differed significantly. The 2x2 analysis of variance controlled for this sexual variation and, in addition, measured interaction between student-centeredness, sex, and personality. Thus for the personality variables measured, three F values were obtained: (1) for the comparison of means of the student-centered and the nonstudent-centered group, (2) for the comparison of means for all males and all females, and (3) for the interaction between personality trait, sex, and course reaction.

Dividing the sample into the required four cells, yielded disproportionate groups. To correct for disproportionality, the adjustment term (Wert, Neidt, and Ahmann, 1954, p. 213) was computed by the formula:



$$\frac{(ad - bc)^2}{(k_1 k_2 k_3 k_4) [(k_1)(k_2)(D_{1,2})^2 + (k_3)(k_4)(D_{3,4})^2] - 2(D_{1,2})(D_{3,4})(ad - bc)}$$

$$N \left[ 1 - \frac{(ad - bc)^2}{(k_1 k_2 k_3 k_4)} \right]$$

A comparison of mean IQ and performance on course examinations was made by a simple analysis of variance. Pre- and post- test performance was compared by analyzing mean pretest scores and mean test score increases.

## Chapter 4

### RESULTS

Essentially there were no significant differences found between those students who had a positive attitude toward student-centered instruction and those who did not. For every criterion tested, the null hypothesis stood.

There were no significant differences on the fifteen variables of the EPPS between the student-centered and nonstudent-centered group (See Table 3). The double classification of variance table organizes mean scores on two dimensions: course attitude (student-centeredness versus nonstudent-centeredness) and sex. The student-centered and nonstudent-centered groups are compared in the rows; males and females are compared in the first two columns. The first F value is for the comparison of all males and all females. The F value in the final column measures the interaction of personality variable, sex, and course attitude.

Although statistical significance was not reached, two trends were established. Deference and sex appeared to interact in course reaction. There was a tendency for the student-centered group to have lower affiliation needs. Males differed significantly from females in the need for affiliation, dominance, abasement, nurturance, heterosexuality, and aggression.

There were no significant differences in F Scale scores between

Table 3  
 Comparison of Personality Needs  
 for Student-centered and Nonstudent-centered Groups

EPPS SCALE	Males			Females			Total			F	(SxA)
	N	X	S	N	X	S	N	X	S		
1. Achievement											
Student-centered	14	11.93	4.46	9	11.22	5.54	23	11.65	4.80	1.34	.313
Nonstudent-centered	11	14.18	2.68	18	12.00	5.08	29	12.83	4.40		
<i>Total</i>	25	12.92	3.97	27	11.74	5.14	52	12.31	4.57		
2. Deference											
Student-centered	14	11.36	4.05	9	9.33	3.43	23	10.57	3.87	.018	3.56
Nonstudent-centered	11	9.36	3.04	18	11.11	3.23	29	10.45	3.26		
<i>Total</i>	25	10.48	3.71	27	10.52	3.37	52	10.50	3.50		
3. Order											
Student-centered	14	7.79	3.85	9	7.33	3.85	23	7.61	3.60	1.26	.131
Nonstudent-centered	11	8.73	4.45	18	9.17	4.81	29	9.00	4.63		
<i>Total</i>	25	8.20	4.06	27	8.56	4.43	52	8.38	4.22		
4. Exhibition											
Student-centered	14	16.14	3.37	9	15.00	4.00	23	15.70	3.59	1.50	1.52
Nonstudent-centered	11	14.82	4.09	18	13.78	3.32	29	14.17	3.60		
<i>Total</i>	25	15.56	3.68	27	14.19	3.52	52	14.84	3.63		
5. Autonomy											
Student-centered	14	15.00	3.78	9	15.89	4.40	23	15.34	3.96	.867	1.06
Nonstudent-centered	11	15.72	5.08	18	13.61	3.88	29	14.41	4.41		
<i>Total</i>	25	15.32	4.31	27	14.37	4.12	52	14.82	4.20		

Table 3 (continued)

EPPS SCALE	Males			Females			Total			F	(SxA)
	N	X	S	N	X	S	N	X	S		
6. Affiliation											
Student-centered	14	13.50	5.95	9	16.22	4.63	23	14.57	5.53	3.00	
Nonstudent-centered	11	14.73	3.66	18	18.78	3.96	29	17.24	4.28		
<i>Total</i>	25	14.04	5.01	27	17.93	4.29	52	16.06	5.00	6.85*	.249
7. Intraception											
Student-centered	14	15.93	5.38	9	17.22	5.54	23	16.44	5.35	.644	
Nonstudent-centered	11	17.18	4.28	18	17.33	3.91	29	17.28	3.98		
<i>Total</i>	25	16.48	4.87	27	17.30	4.41	52	16.90	4.61	.625	.206
8. Succorance											
Student-centered	14	9.21	3.75	9	11.56	3.50	23	10.13	3.76	.314	
Nonstudent-centered	11	9.91	3.75	18	11.56	4.89	29	10.93	4.50		
<i>Total</i>	25	9.52	3.69	27	11.56	4.36	52	10.58	4.16	2.59	.261
9. Dominance											
Student-centered	14	15.71	4.20	9	12.89	4.37	23	14.52	4.38	.007	
Nonstudent-centered	11	16.27	4.10	18	11.94	5.09	29	13.59	5.13		
<i>Total</i>	25	15.88	4.09	27	12.26	4.80	52	14.00	4.79	7.70**	.674
10. Abasement											
Student-centered	14	14.21	4.42	9	16.78	7.31	23	15.22	5.71	.028	
Nonstudent-centered	11	12.18	4.05	18	18.33	5.88	29	16.00	6.00		
<i>Total</i>	25	13.32	4.30	27	17.81	6.29	52	15.65	5.83	8.55**	1.31

Table 3 (continued)

EPPS SCALES	Males			Females			Total			F	(SxA)
	N	X	S	N	X	S	N	X	S		
11. Nurturance											
Student-centered	14	15.29	4.81	9	17.44	2.17	23	16.13	4.09	.377	.372
Nonstudent-centered	11	14.18	4.02	18	17.50	4.89	29	16.24	4.79		
<i>Total</i>	25	14.80	4.43	27	17.48	4.15	52	16.19	4.45		
12. Change											
Student-centered	14	18.00	4.62	9	18.00	6.74	23	18.00	5.40	.127	.127
Nonstudent-centered	11	17.36	3.41	18	17.61	5.21	29	17.52	4.55		
<i>Total</i>	25	17.72	3.90	27	17.74	5.64	52	17.73	4.90		
13. Endurance											
Student-centered	14	11.43	4.59	9	12.22	6.14	23	11.74	5.13	.146	.000
Nonstudent-centered	11	10.82	4.98	18	11.67	5.63	29	11.34	5.31		
<i>Total</i>	25	11.16	4.67	27	11.85	5.69	52	11.52	5.18		
14. Heterosexuality											
Student-centered	14	18.14	4.90	9	14.14	5.73	23	16.70	5.43	.235	.000
Nonstudent-centered	11	18.91	3.94	18	15.23	7.04	29	16.67	6.24		
<i>Total</i>	25	18.48	4.43	27	15.00	6.53	52	16.67	5.84		
15. Aggression											
Student-centered	14	16.14	3.92	9	12.89	5.06	23	14.87	4.59	1.34	1.34
Nonstudent-centered	11	15.46	4.16	18	10.33	4.54	29	12.28	5.00		
<i>Total</i>	25	15.84	3.95	27	11.19	4.78	52	13.42	4.95		

\*  $p < .05$ \*\* $p < .01$

Table 4

Summary Table of Analysis of Variance  
 Of the California-F Scale  
 Administered to a Student-centered and Nonstudent-centered Group

	Males			Females			Total			F	(SxA)
	n	x	s	n	x	s	n	x	s		
California F Scale											
Student-centered	14	101.93	25.63	9	97.56	16.09	23	100.22	20.00	.262	1.16
Nonstudent-centered	10	92.80	13.48	18	96.83	15.83	28	95.39	14.32		
<i>Total</i>	24	98.13	19.44	27	97.07	15.99	51	97.57	17.01	.552	

the experimental groups or between males and females (See Table 4).

There was no significant difference, as determined by a simple analysis of variance, in intelligence between the student-centered and nonstudent-centered groups (See Table 5).

Table 5  
Summary Table of Analysis of Variance  
of Intelligence Quotients  
for Student-centered and Nonstudent-centered Groups

	Student-centered			Nonstudent-centered			F
	N	X	S	N	X	S	
Otis-Lennon Mental Abilities Test Advanced Level	23	116	8.00	29	112	11.50	1.80

Performance was measured by course examinations, administered to classes twice. Comparison was made by analyses of variance of the first test and of test score increases in successive administrations. There was one significant difference ( $p < .01$ ) in performance between the experimental groups (See Table 6). The nonstudent-centered group scored higher on the first administration of the experimental unit examination. This was not confirmed in the mean increase gained by the two groups for that test or in other unit examinations.

Table 6

Summary Table of Analysis of Variance  
of Unit Test Data from Student-centered & Nonstudent-centered Groups

	First Administration						F	Net Change						
	Student-centered			Nonstudent-centered				Student-centered			Nonstudent-centered			F
	N	X	S	N	X	S		N	X	S	N	X	S	
Pre- & Post- Course Exam	22	46.59	11.01	28	49.14	6.45	.394	22	15.64	8.90	28	12.39	6.35	2.26
Observational Course Exam	22	38.82	37.67	28	38.61	4.25	.001	22	12.09	4.74	28	10.32	4.37	1.87
Experimental Course Exam	22	24.59	5.63	28	28.21	.75	11.94**	22	11.59	4.74	28	9.82	5.26	1.52

\*\* p .01



## Chapter 5

## DISCUSSION, RECOMMENDATIONS, AND SUMMARY

Consistent with the greater part of the findings of educational field research, the present study yielded no statistically significant differences. In all cases, the null hypotheses were supported. No criterion distinguished between subjects who favored a student-centered approach and those who did not.

Edwards Personality Preference Schedule. Two variables, deference and affiliation, approached significance ( $F = 3.56$  and  $3.00$ , respectively, when  $F_{.05} = 4.05$ ; see Table 3). Manifest needs associated with deference are:

To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions (Edwards, 1959, p. 11).

The trend was established for an interaction effect. The females who disliked the course had approximately the same mean as the males who liked the course (11.11 and 11.36, respectively). The student-centered females earned approximately the same mean as nonstudent-centered males (9.33 and 9.36 respectively). It was expected that the student-centered subjects would have a lower need for deference; this was the direction for female subjects only. Although all subjects, with the exception of student-centered males, scored lower on deference than the normative means (11.21 for males, 12.40 for females) would predict, student-centered females were the only group that differed significantly ( $p < .01$ ). (The reader is referred to Appendix B.)

For males this direction was reversed. This finding was not consistent with a priori assumption, or with the McKeachie (1961) study that found males high in the power motive characterized by class leadership and student participation. The results are more nearly explained by Amidon and Flanders (1961) who found that dependent students perform better in a classroom climate that encouraged their questions. In our society, deference is not a trait usually attributed to males. The accepting atmosphere of a student-centered class possibly allows behavior that, although unacceptable in other social situations, is better matched with personality needs. It is hypothesized that increased course satisfaction ensues. However, it must be remembered that the mean on deference for student-centered males was approximately equal to the mean of the normative sample and, although higher, did not significantly differ from that of nonstudent-centered males.

The manifest needs associated with affiliation are:

To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends (Edwards, 1959, p. 11).

The F obtained was 3.00 (4.05 < .01) for the comparison of affiliation means between the experimental groups. Those students who like the course tended to score lower on this variable than those students who did not (means equaled 14.57 and 17.24, respectively). It would seem that those students favoring student-centered instruction would have a higher affiliation need. The present findings, however, are consistent with the work of Beach (1960). He found that the less

sociable students achieved more in lecture classes while the more sociable students performed significantly better in instructorless groups. The hypothesis was not supported in discussion groups with an instructor; in these sections low affiliation subjects made the highest scores. It would appear that the presence of an instructor significantly effects social behavior and/or the interaction between behavior and need.

The present study can also be related to the work of Allen (1958). By intercorrelating EPPS scales, two patterns were defined. Pattern 1 variables assumed outgoingness and social responsiveness. Pattern 2 variables, which included the affiliation need, assumed personal dependency and conformity with societal expectations. If affiliation is conceived in this way, the findings of the present study conform to expectations.

On no other scales were the differences between experimental groups significant. It was hypothesized that the homogeneity of the sample accounted for this. The double classification analysis of variance yielded a comparison of all males and all females on each of the EPPS scales. It would be expected, in accordance with the normative college sample, that males and females would differ significantly on twelve of the fifteen variables (See Appendix B). In the present study differences were found on only seven scales: affiliation, dominance, abasement, nurturance, heterosexuality, and aggression (See Table 3). The expected differences were not found on achievement, deference, autonomy, intraception, succorance, and change. All subjects were education majors or minors. It was thus hypothesized that people in the educational field have a distinctive pattern of needs more nearly

similar to others in their field than to the normal population. Variations attributed to sex tend to disappear and a more homogeneous pattern of traits develops.

To varying degrees this is supported by Jackson and Guba (1957), Merrill (1960), and Harrachek and Mori (1964). The present study showed a lowered deference and succorance need and a higher need for autonomy in both sexes, a higher need in males for intraception and change, and a higher need in females for achievement.

Consistent in these studies is the finding that teachers have at least an equal (Harrachek and Mori), if not greater (Jackson and Guba; Merrill), need for order than the normative sample. Order was a scale thought on a priori grounds to be especially important in this experiment as a discriminator between student-centered and nonstudent-centered subjects. Although this did not occur, it is suspected that a different sample would have yielded different results. All subjects in the present sample scored a significantly lower need for order ( $p < .01$ ) than that of the normative college group.

California F Scale. Scores on the California F Scale did not significantly differ for student-centered and nonstudent-centered subjects (see Table 4). This was consistent with the findings of Neel (1959) who recorded no correlation between F scores and course satisfaction and of Stern (1962) who pointed to the very basic nature of F traits. These are attitudes bound closely to the home and the prevailing social norms. Students attending Kansas State Teachers College come from similar socio-economic Midwestern backgrounds; it can probably be assumed that few major variations in F values exist in this population.

Otis-Lennon Mental Ability Test. There were no significant differences in intelligence between those students who liked a group-centered format and those who did not (see Table 6). Sample selection controlled for this factor and no variation between the experimental groups was expected.

Performance measures. Data yielded by performance measures were no more discriminating. Out of six administrations of unit examinations, one F value was obtained that was significant at the .01 level of confidence (see Table 7). The mean for the nonstudent-centered group on the experimental unit test was 3.62 points higher than that of the student-centered group. This did not hold, however, for even the second administration of the same test. It was considered to have occurred by chance, and the null hypothesis was not rejected.

That satisfaction and achievement are not related is neither unique to this particular course nor restricted to college courses only. It would appear to be the general finding of the literature and consistent with experimental evidence in industry, that morale (satisfaction) and productivity (achievement) are typically quite independent dimensions (Goldberg, 1969). Thus, for all criteria tested in this study, the null hypotheses stand.

### Recommendations for Research

Although experimentation has not substantiated trait-by-treatment interaction, this is generally attributed to faults in methodology rather than evidence of interaction nonexistence. Learning is highly charged with emotional factors (Rogers, 1969; Sanford, 1962; Symonds, 1968). Teaching is a dynamic interpersonal experience (Gorham, 1969). It would

be expected that these factors work together. Therefore, the weakness of the link must exist in the ways in which experimenters set out to measure and define interaction (Cronbach, 1957; Cronbach and Snow, 1966).

Recommendations for research are:

(1) The construction of more complicated instructional models in which to test interaction hypotheses. Models could be devised which varied instructional techniques more radically, or which replicated effects in concurrent classes, or which were specifically designed to interact with what appeared to be a promising variable. Findings of the present study would suggest the variables affiliation and deference be further considered. The interaction of sex, trait, and instructional treatment would also seem to warrant further research.

(2) The construction of personality measures more consistent with specifically defined personality traits. Scales constructed for the purpose of general prediction may by their very nature exclude the sort of personality variance most important in personality prediction. If measures could be refined which identified for every subject his perceptual world, more accurate information would result.

### Summary

The purpose of the present study was to identify those personality characteristics which differentiate between college students who like a student-centered approach and those who do not. It further proposed to examine the relationship between those attitudes and performance on course examinations.

Literature concerning student-centered instruction was presented to establish the validity of the approach by examination of its outcome. While there were no significant differences in terms of increased factual knowledge between student-centered and traditional classroom structures, student-centered approaches tended to promote higher-order cognitive goals and non-cognitive changes.

It was reasoned that because much of the impact of student-centered instruction is in the realm of emotion, attitude toward instruction would be an important variable in forming the affective outcome of a student-centered class. Emotional factors in learning were reviewed.

In the present study forty-two subjects in a student-centered class were divided into two groups on the basis of responses to a class reaction questionnaire. Subjects were administered: (1) the Edwards Personal Preference Schedule, (2) the California F Scale, (3) the Otis-Lennon Mental Abilities Test, Advanced Level, and (4) three multiple-choice course examinations each administered twice. Mean scores for the student-centered and nonstudent-centered groups were compared for each criterion. For personality measures, a double classification analysis of variance corrected for disproportionality was utilized; for IQ and performance scores, a simple analysis of variance.

No significant differences were found on any measure between the experimental groups. There was a tendency for deference to interact with sex in determining course reaction. Student-centered males had a higher need for deference while student-centered females had a lower need than did their nonstudent-centered counterparts. Consistent with

the findings of Beach, student-centered subjects tended to have a lower affiliation need than did the other subjects. Performance was not significantly affected by course satisfaction.

Further research employing more sophisticated models and more specific personality measures was suggested. The present study pointed to deference and affiliation as promising variables to be explored in trait-by-treatment interaction.



APPENDIX

## BIBLIOGRAPHY

- Adorno, T. W., Frenkel-Brunswick, Else, Levinson, D. J., & Sanford, R. N. The authoritarian personality. New York: Harper, 1950.
- Anderson, R. P., & Kell, B. L. Student attitudes about participation in classroom groups. Journal of Educational Research, 1954, 48, 255-267.
- Amidon, E. & Flanders, N. A. The effects of direct and indirect teacher influence on dependent-prone students learning geometry. Journal of Educational Psychology, 1961, 52, 286-291.
- Asch, M. J. Nondirective teaching in psychology. Psychological Monographs, 1951, 65 (4 Whole No. 321).
- Beach, L. R. Sociability and academic achievement in various types of learning situations. Journal of Educational Psychology, 1960, 51, 208-212.
- Bettelheim, Bruno. Autonomy and inner freedom: skills of emotional management. In L. J. Ruben (Ed.), Life skills in school and society. Washington D. C.: Association for Curriculum Development, 1969. Pp. 73-94.
- Birney, R., & McKeachie, W. J. The teaching of psychology: A survey of research since 1942. Psychological Bulletin, 1955, 52, 51-68.
- Bloom, B. S. Taxonomy of educational objectives. New York: Longmans, Green, 1956.
- Bovard, E. W. Group structure and perception. Journal of Abnormal Social Psychology, 1951, 46, 398-405.
- Calvin, A. D., Hoffman, F. K., and Harden, E. L. The effect of intelligence and social atmosphere on group problem solving behavior. Journal of Social Psychology, 1957, 45, 61-74.
- Christie, R. & Cook, P. A guide to published literature relating to the authoritarian personality through 1956. Journal of Psychology, 1958, 45, 171-199.
- Coop, R. H., & Brown, L. D. Effects of cognitive style and teaching method and categories of achievement. Journal of Educational Psychology, 1970, 61, 400-405.
- Cronbach, L. J. The two disciplines of scientific psychology. American Psychologist, 1957, 12, 671-684.
- Cronbach, L. J. How can instruction be adapted to individual differences? In R. M. Gagne (ed.), Individual differences. Columbus, Ohio: Charles E. Merrill, 1967.

- Cronbach, L. J. Processes affecting scores on "understanding of others" and "assumed similarity." Psychological Bulletin, 1955, 52, 177-194.
- Cronbach, L. J., & Gleser, G. C. Psychological tests and personnel decisions. Urbana: University of Illinois Press, 1965.
- DiVesta, F. J. Instructor-centered and student-centered approaches in teaching a human relations course. Journal of Applied Psychology, 1954, 38, 329-335.
- Edwards, A. L. Edwards Personal Preference Schedule. New York: Psychological Corporation, 1959.
- Eglash, A. A group discussion method of teaching psychology. Journal of Educational Psychology, 1954, 45, 257-267.
- Ericksen, S. C. the zigzag curve of learning. In L. Seigel (Ed.), Instruction some contemporary viewpoints. San Francisco: Chandler, 1967.
- Faw, V. A. A psychotherapeutic method of teaching psychology. American Psychologist, 1949, 4, 104-109.
- Gage, N. L. (Ed.) Handbook of research on teaching. Chicago: Rand McNally, 1963.
- Gagne, R. M. (Ed.) Individual differences. Columbus, Ohio: Charles E. Merrill, 1967.
- Haigh, G. V., & Schmidt, W. The learning of subject matter in teacher-centered and group-centered classes. Journal of Educational Psychology, 1956, 53, 210-219.
- Hullfish, H. G., & Smith, P. G. Reflective thinking: The method of education. New York: Dodd, Meade, and Co., 1963.
- Jackson, P. W., & Guba, E. G. The need structure of in-service teachers: an occupational analysis. School Review, 2, 1957, 176-192.
- Johnson, D. M., & Smith, H. C. Democratic leadership in the college classroom, Psychological Monographs, 1953, 67 (11, Whole No. 361).
- McKeachie, W. J. Anxiety in the college classroom. Journal of Educational Research, 1951, 45, 153-160.
- McKeachie, W. J. Procedures and techniques of teaching. In R. N. Sanford (Ed.), The American college. New York: Wiley, 1962.
- Merrill, R. M. Comparison of education student, successful science teachers and educational administrators on the Edwards PPS. Journal of Educational Research, 54, 1960, 38-40.

- Neel, A. F. The relationship of authoritarian personality to learning: F Scale scores combined to classroom performance. Journal of Educational Psychology, 50, 1959, 195-199.
- Otis, R. S., & Lennon, R. T. Manual for administration, Forms J & K. New York: Harcourt, Brace, & World, 1967.
- Pervin, L. A. "Performance and satisfaction as a function of individual-environment," Psychological Bulletin, 1968, 69, 56-58.
- Rogers, C. R. Freedom to learn. Columbus, Ohio: Charles E. Merrill, 1969.
- Rokeach, M. The open and closed mind. New York: Basic Books, 1960.
- Sanford, N. (Ed.) The American college. New York: Wiley, 1962.
- Siegel, L. (Ed.) Instruction some contemporary viewpoints. San Francisco: Chandler, 1967.
- Stern, G. G. Environments for learning. In N. Sanford (Ed.), The American college. New York: Wiley, 1962.
- Tallmadge, G. K. Relationships between training methods and learner characteristics. Journal of Educational Psychology, 1968, 59, 32-36.
- Thelen, H. A. Classroom grouping for teachability. New York: Wiley, 1967.
- Thompson, O. E., & Tom, F. K. T. Comparison of the effectiveness of a pupil-centered versus a teacher-centered pattern for teaching vocational agriculture. Journal of Educational Research, 1957, 50, 667-678.
- Ward, J. Group-study vs. lecture demonstration method in physical science instruction for general education college students. Journal Experimental Education, 1956, 24, 197-210.
- Wert, J. E., Neidt, C. O., & Ahmann, J. S. Statistical Methods in Educational and Psychological Research. New York: Appleton-Century-Crofts, 1954.
- Zeleny, L. D. Experimental appraisal of a group learning plan. Journal of Educational Research, 1940, 34, 37-42.

## APPENDIX A

### SURVEY OF OPINIONS

#### Directions:

The purpose of this survey is to determine your opinions about this course. Please be frank and honest in your answers. This has nothing to do with your grade in educational psychology - it is information for a thesis.

To help you in answering, the following terms have been defined on a percentage basis as follows:

- A - Almost always - from 86 to 100 percent of the time
- G - Generally - from 66 to 85 percent of the time
- F - Frequently - from 36 to 65 percent of the time
- S - Sometimes - from 16 to 35 percent of the time
- R - Rarely - from 0 to 15 percent of the time

Circle the letter corresponding to your own opinion:

- A G F S R 1. I enjoy this class.
- A G F S R 2. I like Mr. Shepard\*, as a person.
- A G F S R 3. I like my group's teaching assistant, as a person.
- A G F S R 4. I feel this class has been valuable to me.
- A G F S R 5. I am glad I took this course.
- A G F S R 6. I think class time is well spent.
- A G F S R 7. This class is interesting to me.
- A G F S R 8. I feel the instructor wants me to do well.
- A G F S R 9. I feel "at home" in this class.

Did you enjoy the course? Why or why not?

\*Course instructor.

## APPENDIX B

The manifest needs associated with each of the 15 EPPS variables are:

1. ach Achievement: To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be a recognized authority, to accomplish something of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.

2. def Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

3. ord Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, to have things arranged so that they run smoothly without change.

4. exh Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and comment upon one's appearance, to say things just to see what effect it will have on others, to talk about personal achievements, to be the center of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

5. aut Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in positions of authority, to avoid responsibilities and obligations.

6. aff Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

7. int Intraception: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyze the behavior of others, to analyze the motives of others, to predict how others will act.

8. suc Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

9. dom Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

10. aba Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than when having one's own way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.

11. nur Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

12. ch Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

13. end Endurance: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick at a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.

14. het Heterosexuality: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen to or to tell jokes involving sex, to become sexually excited.

15. agg Aggression: To attack contrary points of view, to tell others what one thinks about them, to criticize others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to become angry, to blame others when things go wrong, to read newspaper accounts of violence.



APPENDIX B

Means and Standard Deviations of the EPPS Variables for the Normative College Sample

Variable	College Sample					
	Means			Standard Deviations		
	Men	Women	Total	Men	Women	Total
1. Achievement	15.66*	13.08	14.38	4.13	4.19	4.36
2. Deference	11.21	12.40*	11.80	3.59	3.72	3.71
3. Order	10.23	10.24	10.24	4.31	4.37	4.34
4. Exhibition	14.40	14.28	14.34	3.53	3.65	3.59
5. Autonomy	14.34*	12.29	13.31	4.45	4.34	4.53
6. Affiliation	15.00	17.40*	16.19	4.32	4.07	4.36
7. Intraception	16.12	17.32*	16.72	5.23	4.70	5.01
8. Succorance	10.74	12.53*	11.63	4.70	4.42	4.65
9. Dominance	17.44*	14.18	15.83	4.88	4.60	5.02
10. Abasement	12.24	15.11*	13.66	4.93	4.94	5.14
11. Nurturance	14.04	16.42*	15.22	4.80	4.41	4.76
12. Change	15.51	17.20*	16.35	4.74	4.87	4.88
13. Endurance	12.66	12.63	12.65	5.30	5.19	5.25
14. Heterosexuality	17.65*	14.34	16.01	5.48	5.39	5.68
15. Aggression	12.79*	10.59	11.70	4.59	4.61	4.73
Consistency Score	11.53	11.74	11.64	1.88	1.79	1.84
N	760	749	1509			

\*This mean is significantly larger (at the 1 per cent level) than the corresponding mean for the opposite sex.

## APPENDIX C

### THE CALIFORNIA F SCALE

1. Obedience and respect for authority are the most important virtues children should learn.
2. A person who has bad manners, habits, and breeding can hardly expect to get along with decent people.
3. If people would talk less and work more, everybody would be better off.
4. The businessman and the manufacturer are much more important to society than the artist and the professor.
5. Science has its place, but there are many important things that can never possibly be understood by the human mind.
6. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.
7. What this country needs most, more than laws and political programs, is a few courageous, tireless, devoted leaders in whom the people can put their faith.
8. No sane, normal, decent person could ever think of hurting a close friend or relative.
9. Nobody ever learned anything really important except through suffering.
10. What the youth needs is strict discipline, rugged determination, and the will to work and fight for family and country.
11. An insult to our honor should always be punished.
12. Sex crimes, such as rape and attacks on children, deserve more than mere imprisonment; such criminals ought to be publicly whipped, or worse.
13. There is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents.
14. Most of our social problems would be solved if we could somehow get rid of the immoral, crooked, and feeble-minded people.
15. Homosexuals are hardly better than criminals and ought to be severely punished.

THE CALIFORNIA F SCALE - continued

16. When a person has a problem or worry, it is best for him not to think about it, but to keep busy with more cheerful things.
17. Every person should have complete faith in some supernatural power whose decisions he obeys without question.
18. Some people are born with an urge to jump from high places.
19. People can be divided into two distinct classes: the weak and the strong.
20. Some day it will probably be shown that astrology can explain a lot of things.
21. Wars and social troubles may someday be ended by an earthquake or flood that will destroy the whole world.
22. No weakness or difficulty can hold us back if we have enough will power.
23. It is best to use some prewar authorities in Germany to keep order and prevent chaos.
24. Most people don't realize how much our lives are controlled by plots hatched in secret places.
25. Human nature being what it is, there will always be war and conflict.
26. Familiarity breeds contempt.
27. Nowadays when so many different kinds of people move around and mix together so much, a person has to protect himself especially carefully against catching an infection or disease from them.
28. Nowadays more and more people are prying into matters that should remain personal and private.
29. The wild sex life of the old Greeks and Romans was tame compared to some of the goings-on in this country, even in places where people might least expect it.

APPENDIX D

PSYCHOLOGY 334

PRE-and POST-COURSE EXAM

Mr. Shepard

Part I

GENERAL DIRECTIONS

Each correct response will be worth one point with a possible maximum score of 100. There will be no correction for guessing. You will have this class period to complete the test. Record the number and form on your answer sheet. DO NOT MARK ON THE TEST BOOKLET. Work as rapidly as you can.

Blacken the space on the answer sheet that indicates the correct answer. There is only one option which correctly answers the multiple-choice item. If more than one option appears correct to you, choose the most complete and best choice.

SAMPLE

00. The purpose of a course in psychology is to
- (1) learn to think about behavior using psychological concepts and principles
  - (2) make you as much like a psychologist as one course can
  - (3) acquire better insight into why people do things
  - (4) show how psychology can be used to develop teaching methods

The correct choice is (1). Therefore, you would blacken the space in column one as indicated below.

00. 1.  2.  3.  4.  5.

DO NOT TURN THIS PAGE UNTIL INSTRUCTIONS ARE GIVEN TO DO SO!!

1. The concept that this diagram represents includes the term \_\_\_\_\_ and illustrates the work of \_\_\_\_\_ :



- (1) Self, Snyggs and Combs
- (2) Heart, Rogers
- (3) Ego, Freud
- (4) Phenomenon, Piaget

2. A person is adjusted in the psychological sense when:
- (1) he has no significant emotional problems.
  - (2) he understands himself as well as can be expected.
  - (3) he has learned what he needs to interact rewardingly with his world.
  - (4) he can accept other people's negative evaluations of him without fear and anger.
3. Which of the following is typically a lower class characteristic?
- (1) Hand-to-mouth existence
  - (2) Industry and a strong sense of duty and responsibility
  - (3) A strong urge for improvement in status
  - (4) Interest in the academic progress of the children
  - (5) Emphasis upon conformity to the social and moral code
4. The conflict between "n Aff" and "n Ach" becomes more intense during:
- (1) the early adult years.
  - (2) adolescence.
  - (3) the middle years of childhood.
  - (4) the early school years.
5. Which of the following probably represents the most ideal form of adjustment?
- (1) Adaptation to one's environment
  - (2) Conformity to social expectations
  - (3) Modification of one's environment to meet one's standards of excellence
  - (4) Integration of one's goals and purposes with those of the social order
  - (5) Minimization of interaction between oneself and one's environment
6. The factor most responsible for the prevalence of juvenile delinquency is:
- (1) failure of individuals to satisfy basic needs in acceptable ways.
  - (2) ineffective character training in the home and school.
  - (3) innate human frailty.
  - (4) inadequacy in law enforcement.
  - (5) the bad example set by society.
7. Acceptance of self is \_\_\_\_\_ associated with acceptance of others.
- (1) moderately and positively
  - (2) not
  - (3) low and negatively
  - (4) moderately and negatively

8. A large discrepancy between the self-concept and self-ideal results in:
  - (1) an exaggerated attempt to accommodate others.
  - (2) an attempt to minimize the differences by attributing imagined characteristics to oneself.
  - (3) non-conforming behavior in unusual situations.
  - (4) a threat to self-acceptance.
9. Feedback is:
  - (1) information a person receives about the effect of his actions.
  - (2) what other people think about actions taken.
  - (3) our perceptions of what other people think about our actions.
  - (4) what we know about ourselves and the way we act.
10. Which of the following statements concerning the development of the self-concept is the most valid?
  - (1) The self-concept develops through a slow self-sustaining process of assimilating experience into a consistent structure.
  - (2) the self-concept is simply an outgrowth of self-esteem arising from the early praise for good behavior heaped upon the infant by his parents.
  - (3) the self-concept is the equivalent of "conscience" which develops largely through the moral teachings of society.
  - (4) The most important single factor in the early development of the self-concept is its own momentum.
  - (5) The self-concept is derived directly from the social recognition the child gets from adults and peers.
11. Which of the following is not a problem that interferes with the school success of many culturally deprived preschool children?
  - (1) They are unable to make simple symbolic interpretations.
  - (2) They have an insatiable curiosity that is annoying and distracting at times.
  - (3) Their attention span tends to be very short.
  - (4) They are less likely to perceive adults as people to whom they can turn for help.
12. In contrast to middle-class students, which of the following seems significant in the decision to enter college on the part of lower-class students?
  - (1) The thrill they received in getting top scores in college entrance examinations.
  - (2) Pleasure received in getting good marks for school work well done.
  - (3) Personal interest shown in them by teachers and counselors.
  - (4) Being told they did very well on intelligence tests taken in elementary school.
13. What determines most clearly the effectiveness with which learning takes place is the extent to which:
  - (1) the learner reads widely to obtain a variety of viewpoints.
  - (2) the learner engages in some kind of manual or physical activity as a part of the learning process.
  - (3) the learner's own purposes are involved in the learning activity.
  - (4) constant evaluation of the learner's errors and shortcomings are emphasized and corrected.
14. The meaning one attaches to a word or concept depends primarily upon:
  - (1) the context in which it is used.
  - (2) one's previous experiences.
  - (3) its meaning in an absolute sense.
  - (4) the meaning the author intended it to have.
  - (5) the reader's mental set.

5. In a recent study regarding whether or not teachers understand learning operations, it was learned that:
- (1) the majority of teachers did NOT have adequate knowledge.
  - (2) many teachers believe children learn through drill and repetition.
  - (3) many teachers believe children learn by imitating.
  - (4) many teachers were not concerned by the problem.
  - (5) all of the above.
6. Some educators argue that students should be provided with as many success experiences as possible. A valid criticism of this point of view is that:
- (1) students will fail to work as hard as they might under such procedures.
  - (2) life inevitably brings some failure, and students need to learn how to react to failure.
  - (3) it ignores differences in pupil characteristics related to succeeding and failing.
  - (4) some failure experiences are more likely to increase motivation than repeated successes.
7. A generalization is learned by induction when a person:
- (1) is told in some way what the generalization is.
  - (2) knows the generalization and finds examples of it.
  - (3) draws a generalization from seeing examples of it.
  - (4) looks for instances of a phenomenon to understand it.
8. Some research with problem solving suggests that students develop the highest degree of motivation for self-initiated problem solving if:
- (1) they receive no help from the teacher.
  - (2) they are given the answers to problems, but are not told how to get the answers.
  - (3) they are given the rules that apply to the problems.
  - (4) teachers help them solve the problems.
9. Willy Brogan is in the fourth grade and still does not know how to read or write. Every teacher so far has given him extra time and attention. He had an IQ of 95 on a non-verbal test, hence his problem is not that of insufficient intelligence. It is quite likely that his teachers:
- (1) have not tried hard enough.
  - (2) have been using the wrong teaching methods.
  - (3) are unaware of the part that emotional factors play in his inability to learn.
  - (4) are unaware that Willy is not really interested in learning.
10. Unless Johnny, who is seven years old, has had some background experience for the process of catching a ball and is at the level of maturity which is adequate for this skill:
- (1) he will need a great quantity of practice to learn the technique.
  - (2) it is hopeless to teach this skill at this time.
  - (3) he will never be able to throw the ball properly if he can't do it at this time.
  - (4) he can't catch because he has a mental block against it.
11. Pavlov's dogs salivated in the presence of a tone which had been previously paired with food. This salivary response is called:
- (1) an habituated response.
  - (2) an unconditioned response.
  - (3) a conditioned response.
  - (4) a skeletal response.

22. The psychological school of thought that supports the concept of instructional objectives is known as:
- (1) Associationism
  - (2) Behaviorism
  - (3) Gestalt
  - (4) Cognitive Field
23. All major contemporary schools of psychology agree that:
- (1) the consequence of a given response determines whether or not it will be learned.
  - (2) the mind has several powers or faculties.
  - (3) motivation is essential to learning.
  - (4) behavior occurs in response to unsatisfied needs and is oriented toward the attainment of goals designed to satisfy such needs.
  - (5) learning takes place as a result of the interaction of the organism with its environment.
24. Skinner's principal criticism of ordinary classroom teaching is that:
- (1) teachers do not know the subject they are teaching well enough.
  - (2) teachers reinforce the wrong responses.
  - (3) the response practice is neglected.
  - (4) too few student responses are reinforced.
25. "I can't understand why so many of the students failed Friday's quiz," complained Mr. Alden, the mathematics teacher. "I gave them the basic principles on Thursday." Mr. Alden is evidently operating on the principle that:
- (1) reward and punishment are the best approach to learning.
  - (2) the mind is a storehouse for facts.
  - (3) motivation works best when it is intrinsic.
  - (4) motivation works best when it is extrinsic.
26. As far as the main objectives of the school are concerned, learning cannot be considered successful unless:
- (1) it is retained permanently.
  - (2) there is "mental discipline."
  - (3) it is deductive.
  - (4) there is transfer of training.
27. If learning theories are to help teachers, they should be concerned with:
- (1) all processes of human learning, in or out of the classroom.
  - (2) factors within the classroom that cause children to learn or to refuse to learn.
  - (3) the development of better standards of grading, testing, and evaluation.
  - (4) enabling the teachers to concentrate on the main job, namely, teaching.
28. People who subscribe to traditional views about education are deeply disturbed at any hint that activity-type programs might appear in the schools. In terms of what actually occurs in such cases, the thing that probably bothers them the MOST is:
- (1) the greater freedom enjoyed by students.
  - (2) the fact that teachers have surrendered control and responsibility to the students.
  - (3) the fact that students do not learn as much as they do under conventional programs.
  - (4) the lack of adequate preparation that characterizes most teachers of activity programs.



29. Which of the following statements about homework is LEAST likely to be valid?
- (1) The student who does not study outside of class is probably doing very little learning in class.
  - (2) Parents are the chief obstacles when it comes to getting students to do homework.
  - (3) Students have some of their most significant learning experiences when they are out of class and on their own.
  - (4) Many students do their homework for largely negative reasons, for example, to keep adults from nagging at them.
30. Jerome Bruner evoked a considerable degree of criticism and opposition among educators and psychologists when he supported the idea that children:
- (1) could learn complex ideas in the fields of mathematics and science.
  - (2) could learn almost anything faster than adults if taught in terms they could understand.
  - (3) were limited in their learning potential by the attitudes of teachers.
  - (4) none of these.
31. An experimenter fails to reject the null hypothesis with data from an experimental and control group. This means that:
- (1) the means of the two groups are really identical.
  - (2) his data has failed to reveal any difference at all.
  - (3) his sample size was too large.
  - (4) the difference between the groups was not significant.
32. In a study of the influence of tobacco smoking on psychological reactions, the independent variable would be:
- (1) smoking.
  - (2) hand steadiness.
  - (3) rate of heart beat.
  - (4) reaction time.
33. Most classroom experimentation has to employ the principle of:
- (1) controlled samples.
  - (2) selected samples.
  - (3) random samples.
  - (4) paired samples.
34. A logical order of procedure for any experiment would be:
- (1) Select the groups, pre-test the groups, determine the behavioral objectives, teach the groups, post-test.
  - (2) Determine the behavioral objectives, teach the groups, post-test.
  - (3) Pre-test the groups, teach the groups, determine objectives, post-test
  - (4) None of the above.
35. A sample is random if:
- (1) both sexes are included.
  - (2) every third person in an alphabetical listing becomes a subject.
  - (3) equal numbers are included from every discriminable group.
  - (4) every member of a defined population had an equal chance of being included in the sample.

36. A teacher tries two different ways of teaching her class how to write a paragraph. She does an experiment to test her hypothesis that immediate correction of errors (one experimental treatment) will produce superior paragraph writing. The NULL hypothesis for this experiment is:
- (1) both groups will perform exactly alike.
  - (2) the experimental groups will do significantly better and better.
  - (3) the differences will be what is expected if chance alone were influencing the results.
  - (4) the performance of the control group will exceed that of the experimental group.
37. One of the following is NOT a true statement about an hypothesis.
- (1) An hypothesis may state a relation between two variables.
  - (2) An hypothesis is the result of an experiment in education.
  - (3) An hypothesis states a relation of dependency among variables.
  - (4) An hypothesis may be stated in an "if-then" form.
38. In an experiment, the investigator attempts to have a control group which is:
- (1) identical in all respects to the experimental group.
  - (2) identical in all respects to the experimental group except for the factor under study.
  - (3) different in all respects from the experimental group except for the factor under study.
  - (4) identical in all relevant respects to the experimental group except for the factor under investigation.
39. Which of the following is of primary concern to educational psychologists?
- (1) The formulation of hypotheses.
  - (2) The discovery of practical solutions to educational problems.
  - (3) The formulation of general scientific principles.
  - (4) The development of professional insights into the principles underlying the teaching art.
  - (5) The discovery of teaching procedures of maximum effectiveness.
40. Childhood I.Q. is \_\_\_\_\_ correlated with later achievement.
- (1) not
  - (2) positively
  - (3) negatively
  - (4) perfectly
41. We cannot satisfy needs for attention and needs to belong unless:
- (1) we have had some minimum of formal education.
  - (2) we use a sociometric approach to life.
  - (3) we approach problems on a cognitive level.
  - (4) others have positive feelings toward us.
42. One of the major consequences for the teacher of studying educational psychology should be greater understanding of:
- (1) why children do the things they do.
  - (2) how people learn.
  - (3) the abnormalities of human behavior.
  - (4) one's self as a person and how he affects other people.

43. Educational psychology is oriented toward:
- (1) the study of the peculiarities of individual children.
  - (2) the application of the principles and techniques of psychology to the solutions of the problems of the classroom.
  - (3) the formulation of hypotheses and theories relative to educational practice.
  - (4) the development of pedagogical practices of maximum effectiveness.
44. The role that interferes most in teachers' attempts to develop skills as artists in human relations is that of:
- (1) the classroom manager.
  - (2) the power seeker.
  - (3) the parental figure.
  - (4) the subject-matter expert.
45. A teacher is to some degree a psychological catalyst because:
- (1) he acts as a go-between or channel of communication between students and administration, and between parents and administration.
  - (2) he is able to engage actively and energetically in stimulating and guiding learning.
  - (3) he has the responsibility for initiating and promoting effective communication within the classroom.
  - (4) certain important changes take place in students merely because he is there.
46. Prescientific understanding of educational processes gives educational psychology students the most difficulty when it:
- (1) interferes with learning new concepts.
  - (2) is based on common sense.
  - (3) is based on folklore and tradition.
  - (4) proves to be valid and workable.
47. A student who has grasped the purpose of a course in educational psychology might say:
- (1) "Psychology helps mainly to understand the children who have problems in my class."
  - (2) "Psychology is all right as a science but it's still too new to tell me much about teaching."
  - (3) "Learning to think psychologically will give me a new way of looking at teaching problems."
  - (4) "A teacher's experience is what counts; psychology helps but it can't give you experience."
48. The degree of motivation displayed by students in a given classroom is most directly a function of:
- (1) the availability of suitable incentives.
  - (2) the sensitivity of the teacher to pupil needs.
  - (3) the assets and liabilities of the students.
  - (4) the relative availability of unsatisfied needs in students to which the teacher can appeal.
  - (5) the appeal inherent in the curriculum.

49. Probably the BEST reminder a beginning teacher might take with him into his classroom is that:
- (1) knowledge of one's subject is the crucial thing.
  - (2) liking children is necessary and a sufficient condition for effective teaching.
  - (3) pupil adjustment is the paramount educational objective.
  - (4) classroom misbehavior implies a breakdown in pupil motivation.
  - (5) learning is effective to the extent that it involves the goals and purposes of individual children.
50. Psychology's major contribution to education lies in:
- (1) defining the goal for which the teacher should strive.
  - (2) identifying potentially successful educational procedures.
  - (3) comparing the relative effectiveness of various teaching procedures.
  - (4) providing a scientific foundation for the art of teaching.
51. Donald Kipp scored at the 90th percentile of college entrance tests given by North State College, but his scholastic average by the end of his junior year was barely above a "C." The counseling center gave him some achievement tests in his major, economics, and found that he was scoring in the top ten per cent, when compared to other juniors in his field. It appears that Donald is:
- (1) normal.
  - (2) an overachiever.
  - (3) an underachiever.
  - (4) a psychological failure.
52. Two boys in Mr. Shaw's English class are getting falling marks, even though their IQ's mark them as among the brightest in the class. This example shows that:
- (1) IQ's are excellent indicators of the academic success we can expect of girls, but not of boys.
  - (2) intelligence tests are poor predictors of academic success.
  - (3) these boys are really not learning very much in the way of English.
  - (4) academic aptitude is only one of several factors involved in grade-getting.
53. "I see that this tenth-grade student scores at the 63rd percentile of the reading test, using national norms." This statement means that the student:
- (1) had a higher score than 62 per cent of the students comprising the norm group.
  - (2) had a lower score than 63 per cent of the students comprising the norm group.
  - (3) got 63 per cent of the items correct.
  - (4) should be given passing grades.
54. Teachers' observations may in the end prove to be more helpful than personality tests when it comes to understanding students and their problems. This is especially true if such observations:
- (1) consist of a teacher's interpretations of student behavior.
  - (2) attempt to show how a student feels or reacts to himself and his behavior.
  - (3) include the behavior of students whose problem behavior attracted the teacher's attention.
  - (4) show how the behavior affected the teacher and the rest of the class.
55. If efficiency of evaluation were the only consideration, the type of examination that would cover the most material in the least time and in the most reliable manner would be:
- (1) the essay examination.
  - (2) oral quizzing.
  - (3) teacher-made objective tests.
  - (4) standardized objective tests.

56. A standard intelligence test contains the following subtests; vocabulary, verbal analogies, anagrams, and reading comprehension. The validity coefficient for this test is probably highest for predicting grades in:
- (1) history, social studies, and English.
  - (2) history, mathematics, and social studies.
  - (3) English, history and chemistry.
  - (4) social studies, English, and art.
57. You are told that there is a positive correlation between intelligence, as measured by intelligence tests, and the level of occupation that a person eventually enters. Which of the following statements can be made on the basis of this measured correlation?
- (1) High intelligence causes people to go into professional occupations.
  - (2) All people of high intelligence are likely to be found in high occupations.
  - (3) The higher a person's intelligence, the more likely he will be found in a professional occupation.
  - (4) The chances are 50-50 that a person of high intelligence will go into a professional occupation.
58. Which of the following statements concerning the MA is FALSE?
- (1) The MA is obtained directly from performance on an IQ test.
  - (2) The MA indicates the level of mental functioning.
  - (3) The MA is NOT in itself an index of brightness.
  - (4) The MA continues to increase throughout the childhood period.
  - (5) The MA of an elementary school child is numerically equal to his CA.
59. Intellectual ability:
- (1) is best measured through tests of physiological functions.
  - (2) is measured directly through tests.
  - (3) can only be inferred from observations of behavior.
  - (4) can be given an absolute number between 40 and 150.
60. You have calculated a correlation coefficient to be -1.10. This means:
- (1) you have made a mistake somewhere.
  - (2) the set of data must contain errors.
  - (3) the correlation coefficient is really -0.90.
  - (4) no relationship exists.
61. Fauna whispered to Miss Fredericks, as she turned in her quiz paper. "Dale was copying. I saw him" Miss Fredericks said nothing, but she could not help thinking it was odd that Fauna should mention this since she had suspected for some time that Fauna was getting other children to do her homework for her. It is quite possible that Fauna is using a mental defense mechanism known as:
- (1) conformity
  - (2) rationalization
  - (3) repression
  - (4) projection
62. Teachers who prefer to deal with problem behavior promptly and directly should keep in mind that such treatment:
- (1) has little effect on children.
  - (2) is better than postponing and delaying.
  - (3) is unlikely to get at the source of the behavior.
  - (4) directs the student's attention to the motivation underlying the behavior rather than to the behavior itself.

63. After correcting a disturbance in the classroom, the teacher's main concern should be:
- (1) to punish all offenders and thereby forestall the recurrence of unacceptable behavior.
  - (2) to learn the cause of the misbehavior.
  - (3) to provide closer supervision as a means of preventing the recurrence of the incident.
  - (4) to reduce the demands made upon the individuals involved as a means of reducing tension.
  - (5) to enlist group censure as a means of reducing tension.
64. When school children become mischievous, explosive, rebellious or apathetic, the teacher should first look into:
- (1) the atmosphere of the home from which they come.
  - (2) the appropriateness of the work assigned and the demands made upon them.
  - (3) the sociometric structure of the class.
  - (4) the undermining influences of the home and community.
  - (5) the co-curricular program and other attractions competing for the children's interest.
65. That drug addiction has become such a problem among adolescents and young adults is primarily due to the fact that:
- (1) drugs provide the individual with a temporary escape from reality.
  - (2) drugs definitely satisfy innate appetites.
  - (3) drugs satisfy basic needs generated by changes in body chemistry in adolescence.
  - (4) drugs act as tranquilizers for tired nerves.
66. Probably the most important of the following determinants of the effectiveness of learning is:
- (1) the method of presentation.
  - (2) the degree of meaningfulness and understanding.
  - (3) the concentration of the learning periods.
  - (4) the degree of overlearning.
  - (5) the atmosphere of the situation.
67. Gary, a ninth grade student at Meadow Acres Junior High School, was recently sent to the principal's office for swearing at his mathematics teacher, Miss Noble. Which of the following might offer an explanation of his behavior:
- (1) He was berated by his parents before coming to school.
  - (2) He was assigned to work with a group of girls in class.
  - (3) His parents have been discussing a possible divorce.
  - (4) He was late to class because of being a bit delayed by the previous instructor.
  - (5) All of the above.
68. The major distinction between problem solving and other types of learning is:
- (1) problem solving has more transferability.
  - (2) problem solving is always a more creative activity.
  - (3) problem solving is less related to the basic teaching model.
  - (4) there is no distinction; problem solving is only another term for learning.

69. Which of the following choices is the best definition of learning?
- (1) relatively permanent contiguity between the stimulus and response.
  - (2) relatively permanent acquisition of knowledge.
  - (3) relatively permanent change in a behavioral pattern which is the result of reinforced practice.
  - (4) relatively permanent experience which is coded in the central processes of the brain.
70. When assessing entering behavior:
- (1) a standardized test is used.
  - (2) a test of previous learning is used.
  - (3) a test of present learning is used.
  - (4) all of the above are assessments of entering behavior.
71. One of the arguments for the use of explicit statements of instructional objectives is that:
- (1) educational objectives are concerned with processes as well as products.
  - (2) the teacher can plan the final stages of instruction.
  - (3) it emphasizes the importance of conformity.
  - (4) it makes clear what the student will be able to do for some time into the future.
72. Which of the following is an explicit statement of an instructional objective?
- (1) The student understands the factors contributing to the American Revolution.
  - (2) The student gives oral directions for making an apple pie.
  - (3) The student knows how an automobile works.
  - (4) The student comprehends the difference between a star and a planet.
73. Which of the following is NOT an explicit statement of an instructional objective?
- (1) The student is able to distinguish between classical and modern art.
  - (2) The student can identify a Beethoven symphony upon hearing excerpts from four composers.
  - (3) The student can list the causes of the Civil War.
  - (4) The student grasps the significance of the American Revolution.
74. Which of Mager's requirements is missing from the following faulty task description: "The learner must be able to select at least five factors contributing to World War I."
- (1) Acceptable terminal performance.
  - (2) Important conditions under which behavior is to occur.
  - (3) Description of acceptable performance.
  - (4) All requirements are missing.
75. Which of the following categories is part of Bloom's classification?
- (1) concept learning
  - (2) principle learning
  - (3) problem solving
  - (4) comprehension
76. A child is putting together pieces to complete a jigsaw puzzle of the United States. What behavior category does this illustrate?
- (1) knowledge
  - (2) comprehension
  - (3) analysis
  - (4) synthesis

77. This analogy is based upon Bloom's TAXONOMY of INSTRUCTIONAL OBJECTIVES: Psychomotor Domain is to touching a puppy as Affective Domain is to:
- (1) holding a puppy
  - (2) seeing a puppy
  - (3) loving a puppy
  - (4) calling a puppy
78. Which of the following is the highest level of the Cognitive Domain of Bloom's Taxonomy?
- (1) Evaluation
  - (2) Synthesis
  - (3) Analysis
  - (4) Comprehension
79. Which one of the following is not a correctly stated instructional objective?
- (1) The learner will construct a classification of objects on the basis of color, size, shape and texture.
  - (2) The learner will distinguish inferences from observations.
  - (3) The learner will apply the rule for the finding of the volume of a regular prism.
  - (4) The learner will gain an insight into the metamorphic cycle of butterflies.
80. The principal question a teacher should ask when organizing the objectives of his course is:
- (1) "What are the significant changes that ought to occur in my students?"
  - (2) "What does the syllabus say?"
  - (3) "What would prepare the students for college?"
  - (4) "How can I prepare my class to go on to the next course?"
81. According to the APA standards for the identification of resources, which one of the following is correct?
- (1) Parentheses following the statement including last name of author and date of publication.
  - (2) Number following the quotation with footnote at bottom of page.
  - (3) Number following the quotation with list of resources at end of article.
  - (4) Insertion of footnote information immediately following statement and separated by lines above and below.
82. In the writing of a research paper one should follow which sequence below:
- (1) Introduction, Purpose, Data, Conclusion, Discussion.
  - (2) Introduction, Purpose, Review of literature, Discussion of Data, Conclusion, Summary.
  - (3) Introduction, Review of literature, Data, Discussion, Summary.
  - (4) Purpose, Data, Application, Conclusion, Summary.
83. In the preparation of an experiment, one should include all of the items below EXCEPT:
- (1) Selection of the subjects.
  - (2) Statement of null hypothesis.
  - (3) Construction of materials and equipment.
  - (4) Writing out explicit procedures.
  - (5) Select supporting literature only.



84. The correct order in writing up an experiment is which of the sequences below?
- (1) Introduction, Procedure, Results, Discussion, Conclusion, Application, Summary.
  - (2) Introduction, Tabulation, Discussion, Results, Application, Summation.
  - (3) Statement of hypothesis, Discussion, Tabulation, Application, Summation, Conclusion.
  - (4) Hypothesis, Procedure, Materials, Tabulation, Discussion, Summary.
85. Designs for experiments in learning may be obtained from:
- (1) An instructor in your area of concentration.
  - (2) Your educational psychology instructional team.
  - (3) Your educational psychology textbook.
  - (4) Abstracts and journals in the library.
  - (5) All of the above.
86. One possible conclusion that emerges from studies of the postponement of rewards and its relationship to children's learning is that children from socially deprived environments:
- (1) find it easy to trust a teacher who promises a reward to be given at a later time.
  - (2) find it easier to work if rewards are given immediately.
  - (3) learn better if rewards are given at regular intervals.
  - (4) prefer to work at learning tasks for the sake of the enjoyment provided by the completion of such tasks.
87. A child is more likely to learn how to cope with the problems of life if his mother:
- (1) always responds to his needs for affection.
  - (2) tends to reinforce attention—and affection-seeking behavior.
  - (3) helps him with problems.
  - (4) reinforces problem-solving behavior.
88. When school children experience as many or more failures than successes, they are likely to:
- (1) use their intellectual abilities more efficiently.
  - (2) put more attention, willingness, and effort into studying.
  - (3) set less realistic aspirations for themselves.
  - (4) do any of the above.
89. Role-playing activities in a class provide the participants an opportunity to:
- (1) effect changes in attitudes.
  - (2) develop group adhesiveness.
  - (3) experience empirically the position of another.
  - (4) demonstrate the ability to act with feeling.
90. Teachers need to have a thorough knowledge of the principles of group dynamics because:
- (1) they need to detect when group cohesiveness has reached the danger point.
  - (2) they are to educate children to live in a social group.
  - (3) groups exert a major influence upon the attainment of the goals of education.
  - (4) the modern classroom has become more and more of a group situation.

### PART III

**DIRECTIONS:** FOR THE NEXT TEN (10) QUESTIONS, MARK THE NUMBER ONE (1) BLANK ON THE ANSWER SHEET FOR THOSE YOU THINK ARE TRUE AND MARK THE NUMBER TWO (2) BLANK FOR THOSE YOU THINK ARE FALSE.

91. Whether students will do well in class depends on whether they are rewarded by their teachers for good work (through good marks, praise, honors, awards, and the like).
92. Whether students will do well in class depends on whether they are punished for poor work (through low or failing marks, reprimands, and the like).
93. In other words, whether a student learns at all will depend on the extent to which he is rewarded or punished by his teachers.
94. Learning, particularly in subjects such as history, science, and social problems, is primarily a process of acquiring and absorbing facts.
95. Once students REALLY LEARNED, as a result of having been TAUGHT PROPERLY, they will retain what they have learned.
96. One of the best ways to teach a child is to show him the difference between correct and incorrect ways of doing things.
97. The best way to learn a new skill is to have the teacher present it one step at a time.
98. The really important and significant things in life are not learned easily because they take a lot of hard, unpleasant work, whereas things that are learned easily and pleasantly are not likely to be of much value.
99. Students cannot be forced to learn if they do not want to, because, "you can lead a horse to water, but you cannot make him drink." Therefore, the best way to get students to learn is to make sure that the "learning is fun."
100. In order to function adequately in a subject or a field, students must first be introduced to and have a thorough understanding of key principles involved.

APPENDIX D

PSYCHOLOGY 334  
EXPERIMENTAL UNIT EXAMINATION  
Mr. Shepard

GENERAL DIRECTIONS

Each correct response will be worth one point with a possible maximum score of 45. There will be no correction for guessing. You will have 30 minutes to complete the test. Record the number and form on your answer sheet. Do not mark on the test booklet. Work as rapidly as you can.

Part I.

This part of the test consists of 12 terms or concepts listed on the left hand side of the page. In the column on the right hand side of the page are definitions. On your answer sheet, write in the appropriate letter for each concept.

Part II.

Blacken the option on the answer sheet that indicates the correct answer. There is only one option which correctly answers the multiple-choice item. If more than one option appears correct to you, choose the most complete and best choice.

DO NOT TURN THIS PAGE UNTIL INSTRUCTIONS ARE GIVEN TO DO SO!!

## MATCHING

### Part I

1. \_\_\_\_\_ Extraneous variable
  2. \_\_\_\_\_ Experimental group
  3. \_\_\_\_\_ Null hypothesis
  4. \_\_\_\_\_ Dependent variable
  5. \_\_\_\_\_ Research hypothesis
  6. \_\_\_\_\_ Inference
  7. \_\_\_\_\_ Replication
  8. \_\_\_\_\_ Raw score
  9. \_\_\_\_\_ Range
  10. \_\_\_\_\_ Median
  11. \_\_\_\_\_ Percentile
  12. \_\_\_\_\_ Correlation coefficient
- A. a procedure in which an experiment is repeated in all respects except that the dependent variable is changed.
  - B. the process of reasoning from some to all.
  - C. a number expressing the degree of association between variables.
  - D. a statement of a relationship between variables.
  - E. an average of a set of scores.
  - F. not forming a vital part of an experiment.
  - G. the group given the experimental treatment in an experiment.
  - H. members are not exposed to the independent variable.
  - I. the observed result from the effect of the cause.
  - J. a statement that observed differences or observed associations are likely to be the product of chance events.
  - K. tells what percent of the student's responses were made in the appropriate manner.
  - L. a procedure in which an experiment is repeated in all respects except that the subjects of the experiment are different from the original subjects.
  - M. the relative position of each score in the distribution as arranged on a scale of one hundred.
  - N. difference between the largest and smallest values in a distribution.
  - O. the score or score value which divides the distribution into equal parts.
  - P. the variable that an experimenter manipulates in an experiment.
  - Q. the number of correct answers divided by the number possible.

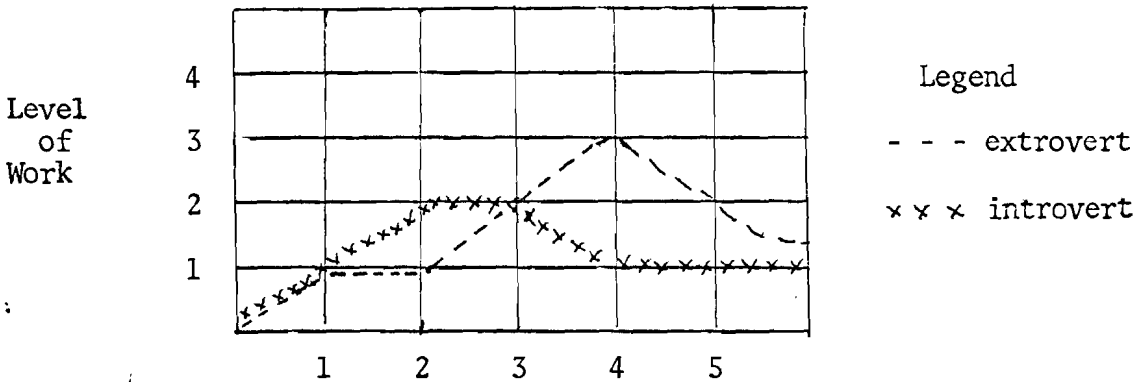
Part II - MULTIPLE-CHOICE

13. Most classroom experimentation has to employ the principle of:
1. controlled samples.
  2. selected samples
  3. random samples.
  4. paired samples.
14. A complete and logical order of procedure for any experiment would be:
1. Select the groups, pre-test the groups, determine the behavioral objectives, teach the groups, post-test.
  2. Determine the behavioral objectives, teach the groups, post-test.
  3. Pretest the groups, teach the groups, determine objectives, post-test.
  4. None of the above.
15. A sample is random if:
1. both sexes are included.
  2. every third person in an alphabetical listing becomes a subject.
  3. equal numbers are included from every discriminable group.
  4. every member of a defined population has an equal chance of being included in the sample.
16. A teacher tries two different ways of teaching her class how to write a paragraph. She does an experiment to test her hypothesis that immediate correction of errors (one experimental treatment) will produce superior paragraph writing. The null hypothesis for this experiment is:
1. both groups will perform exactly alike in all areas.
  2. the experimental groups will do significantly better and better than any other comparable group.
  3. the differences will be what is expected if chance alone were influencing the results.
  4. the performance of the control group will exceed that of the experimental group.
17. One of the following is not a true statement about a hypothesis.
1. A hypothesis may state a relation between two variables.
  2. A hypothesis is the result of an experiment in education.
  3. A hypothesis states a relation of dependency among variables.
  4. A hypothesis may be stated in an "if-then" form.

18. In an experiment, the investigator attempts to have a control group which is:
1. identical in all respects to the experimental group.
  2. identical in all respects to the experimental group except for the factor under study.
  3. different in all respects from the experimental group except for the factor under study.
  4. identical in all relevant respects to the experimental group except for the factor under investigation.
19. An experimenter fails to reject the null hypothesis with data from an experimental and control group. This means that:
1. the means of the two groups are really identical.
  2. his data has failed to reveal any difference.
  3. his sample size was too large.
  4. the difference between the groups was not significant.
20. In a study of the influence of tobacco smoking on psychological reactions, the independent variable would be:
1. smoking
  2. hand steadiness
  3. rate of heart beat
  4. reaction time
21. The "Hawthorne effect" is best illustrated in one of these groups:
1. the experimental group.
  2. the control group.
  3. the standardization group.
  4. the norm group.
22. Miss Hall hopes to measure how well her class "likes poetry." In order to proceed with her experiment, she must first define:
1. the reliability of the test
  2. the validity of her test
  3. the criterion behavior to be observed
  4. the group to whom the test will be given
23. The term "replication" pertains to:
1. The validity of an experiment
  2. The repetition of an experiment
  3. The reliability of an experiment
  4. The standardization of an experiment
24. Research hypothesis is to null hypothesis as robin is to:
1. barn swallow
  2. bluebird
  3. quail
  4. cardinal

25. The following chart is an illustration of a study of praise and blame to incite or discourage improvement of the extroverts and introverts in classes. From the graph, it is evident that:

1. The extroverts were praised after the first test.
2. The introverts were praised after the first, third, and fourth tests.
3. The extroverts were blamed after the third test.
4. The introverts were blamed after the third test.



26. A teacher, having given his class a series of activities and keeping a record of the students' performances, has on his chart:

- |                 |                       |
|-----------------|-----------------------|
| 1. raw data     | 3. central tendencies |
| 2. correlations | 4. statistics         |

Questions 27 to 30 relate to the following case: Mr. Thornton wishes to test the following hypothesis: Students who study in groups obtain better grades in geography than those who study alone. He picks two sets of students. The students in the first group study alone; those in the second study in groups of three.

27. The students who study alone compose

- |                               |                            |
|-------------------------------|----------------------------|
| 1. the standardization group. | 3. the experimental group. |
| 2. the variable group.        | 4. the control group.      |

28. The students who study in groups of three are the:

- |                           |                        |
|---------------------------|------------------------|
| 1. standardization group. | 3. experimental group. |
| 2. variable group.        | 4. control group.      |

29. The method used for studying geography is called the:

- |                          |                         |
|--------------------------|-------------------------|
| 1. independent variable. | 3. control method.      |
| 2. dependent variable.   | 4. standardized method. |

30. The grades received by both groups as a result of the experiment are referred to as the:
1. independent variable.
  2. dependent variable.
  3. results of the hypothesis.
  4. norms of the group.

31. Which one of the graphs below is a correct version of the Retention or Memory curve:



32. In the preparation of an experiment, one should include all of the items below except:

1. Selection of the subjects
2. Statement of research hypothesis
3. Construction of materials and equipment
4. Writing out explicit procedures
5. Identifying the control and experimental groups

33. The correct order in writing up an experiment is which of the sequences below?

1. Introduction, Method, Results, Discussion, Conclusion, Summary.
2. Introduction, Tabulation, Discussion, Results, Application, Summation.
3. Statement of hypothesis, Discussion, Tabulation, Application, Conclusion, Summary.
4. Hypothesis, Procedure, Materials, Tabulation, Discussion, Summary.

34. Designs for experiments in learning may be obtained from:

1. An instructor in your area of concentration.
2. Your educational psychology instructional team.
3. Your educational psychology textbook.
4. Abstracts and journals in the library.
5. All of the above.

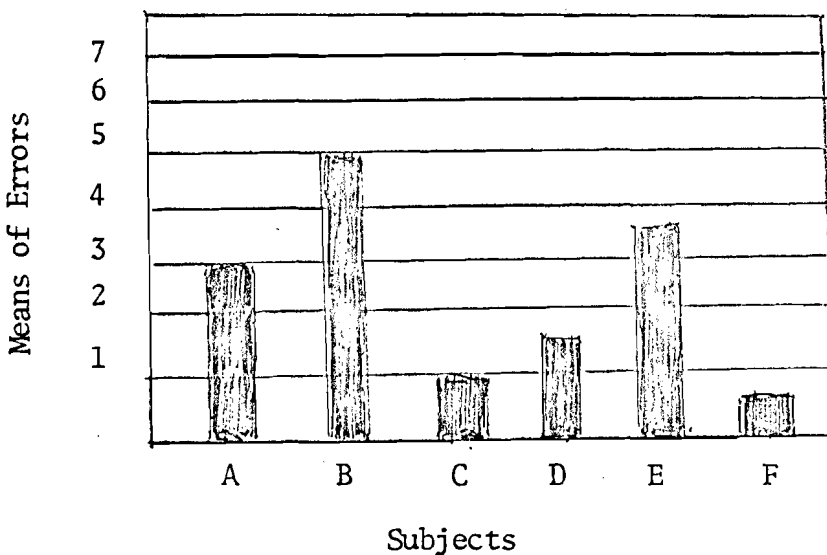
35. A method used by researchers to compare data from one group with data from another group is:

1. Finding the correlation coefficient.
2. Comparing raw scores.
3. Measuring the range between the groups.
4. Checking the extraneous variables.



36. In developing an experiment, one must always be careful to be able to control all the factors that might affect the outcome. These factors are known as:
1. The subjects.
  2. The experiment design.
  3. The extraneous variables.
  4. The control group.
37. "See the dog chasing the cat" is to "There is a fire on the other side of the hill because I see smoke," as observation is to:
1. replication.
  2. experimentation.
  3. application.
  4. inference.
38. When the instructor used the can of 500 colored marbles, he was demonstrating the concept of:
1. random sample.
  2. application.
  3. observation.
  4. materials and equipment.
39. In the World War II period, research is to Germany as null is to:
1. England.
  2. Switzerland.
  3. United States.
  4. Japan.
40. The arithmetic mean of the scores 4, 5, 7, 6, 4 is:
1. 6.0
  2. 5.5
  3. 5.2
  4. 5.0
  5. 4.8
41. The measure of central tendency to use when reporting data and to avoid the undue influence of extremes is the:
1. standard deviation.
  2. median.
  3. range.
  4. mode.
  5. mean.

42. The median of the following scores--4, 6, 7, 5, 3, 9, 2--is:
1. 6.0
  2. 5.2
  3. 4.0
  4. 5.0
  5. 5.1
43. The 60th percentile is the point in a distribution:
1. Where a student has missed 40 per cent of the questions.
  2. Below which are 40 per cent of the cases.
  3. Below which are 60 per cent of the cases.
  4. Where a student got 60 percent of the questions correct.
44. Arithmetic mean is to central tendency as standard deviation is to:
1. range.
  2. median.
  3. midscore.
  4. correlation coefficient.
45. In the chart as shown below, which one of the following factors is missing:
1. tabulation.
  2. statistical input.
  3. graphing of data.
  4. titling of data.



APPENDIX D

Psychology 334  
OBSERVATION UNIT TEST  
Mr. Shepard

1. The three basic needs that appear in infancy are the needs for:
  1. love, maintenance of bodily processes, and safety.
  2. love, safety, and self-actualization.
  3. love, acceptance, and the maintenance of bodily processes.
  4. self-expression, anxiety, and general competence.
  
2. It is difficult or impossible to trace behavior to any single cause, because:
  1. individuals are generally unaware of the reasons why they behave as they do.
  2. behavior is based on hypotheses and hunches.
  3. there is always a complex constellation or pattern of causes and forces behind every action.
  4. a complete list of motives and forces would be very long, involved, and difficult to complete.
  
3. If a pupil in your high school class blames you for his low grade and says you "have a grudge against him" (thus the low grade), his behavior may best be described as:
  1. an example of projection.
  2. an indication of emotional disturbance.
  3. hysterical rationalization.
  4. a symptom of neurasthenia.
  
4. When pupils become insolent, many teachers become angry and punish them in order "to teach them respect." Such teachers might best be described as:
  1. acting in a way to satisfy their own needs.
  2. being unfair to the pupil.
  3. strict by acting in the best interests of the pupils in the long run.
  4. using overcompensation to justify their behavior.
  
5. A rating scale or analysis grid most directly provides:
  1. an excellent substitute for a teacher-made test.
  2. an inadequate substitute for a standardized achievement test.
  3. a means of putting teacher observations in quantitative form.
  4. a means of eliminating most of the need for teacher observation.

6. Which of the following is most likely to describe a psychological need?
  1. Loren needs to do better in his reading if he is to be promoted.
  2. Kathy needs someone her own age with whom to play.
  3. Jimmy needs a teacher who will really make him mind.
  4. Doris, a sound sleeper, needs to be awakened at least twice each morning.
  
7. The conflicting results of the studies on the effects of praise and blame as motivational factors in pupil behavior might be best accounted for by the fact that:
  1. a control group was not used in most of these studies
  2. different children react differently depending on their past experience
  3. the subjects were of differing ages
  4. rewards and punishments were different for the different groups
  
8. The main reason children increasingly lose interest in school as they grow older is probably that:
  1. courses become more involved each year
  2. children have less need for education as they grow older
  3. most of them are not capable of the things expected of them by teachers
  4. they have become spoiled by the easy, modern way of living and are just too lazy to care about school
  5. the school is not satisfying their needs and interests
  
9. One advantage of using sociometric measures is that:
  1. they provide useful health data
  2. they indicate IQ level
  3. they reveal information often not seen by the teacher
  4. they improve the social abilities of students
  
10. When a test measures what its title says it measures, it is said to possess:
  1. reliability
  2. norms
  3. validity
  4. purpose
  
11. A teacher notes that a student has pushed a classmate in the hall. This is the only time she has seen this student behave in such a manner. Later she has to rate her pupils on "aggressiveness." This particular student should be rated:
  1. not from a single observation
  2. low
  3. high
  4. as "probably aggressive"

12. John, a student in Miss Smith's arithmetic class, obtained a very low score on the test. The teacher can legitimately interpret that:
  1. John just doesn't care
  2. John probably knows little arithmetic
  3. John forgot everything over the summer
  4. John should not have been promoted.
13. Miss Adroit has a boy in her fourth-grade class who, because of polio, has to walk with crutches. She should:
  1. give him more sympathy and encouragement than the average child
  2. help him make use of the abilities he has
  3. induce other children to sympathize with him
  4. give extra rewards and privileges to him
14. The major problem of group learning is:
  1. that it doesn't always work and is impractical
  2. in getting group members to work together on a common goal
  3. the lack of interest among students
  4. the length of time required for groups to function effectively
15. Psychology's major contribution to education lies in:
  1. defining the goals for which the teacher should strive
  2. identifying potentially successful educational procedures
  3. comparing the relative effectiveness of various teaching procedures
  4. combatting superstition and traditionalism in educational theory
  5. providing a scientific foundation for the art of teaching
16. The grading of a student's progress is usually entirely:
  1. subjective
  2. objective
  3. standardized
  4. answers 2 and 3
  5. none of the above
17. If the halo effect is influencing a teacher's judgment about a pupil, she will:
  1. criticize this pupil about his academic deficiencies
  2. find fault with his classroom conduct
  3. consistently rate the pupil in a favorable manner
  4. not pay much attention to his actions
18. The anecdotal record:
  1. is a recording device only
  2. is a measurement instrument of potential use
  3. has been shown to be a reliable instrument
  4. has been found to be valid in predicting only a small number of performances

19. The value of any testing program depends on:
  1. the administrators of the test
  2. the scores made on the test
  3. the use made of the test results
  4. the testing situation.
  
20. One major difficulty in using a system of symbols in grading is that:
  1. no one agrees on its meaning
  2. the results of a complex procedure are summarized
  3. the nature of the tests used in assigning grades is not indicated
  4. the symbols force the teacher to make judgments she is not prepared to make.
  
21. In general, most school systems should include in their testing programs:
  1. only standardized tests
  2. only teacher-made tests
  3. both teacher-made tests and standardized tests
  4. tests administered by the school's own testing bureau
  
22. Teachers need to ask certain questions about the behavior of students which they observe. Which of the following is an example of that kind of question? A student has answered poorly a set of questions put to her by the teacher:
  1. Could the reason for the poor answer be that Mary hasn't remembered the facts we studied last week?
  2. I wonder if she would do better with another book?
  3. Maybe Mary isn't as bright as her test scores and previous work indicate?
  4. Maybe her attitudes toward school are changing?
  
23. All major contemporary schools of psychology agree that:
  1. the consequence of a given response determines whether or not it will be learned
  2. the mind has several powers or faculties
  3. motivation is essential to learning
  4. behavior occurs in response to unsatisfied needs and is oriented toward the attainment of goals designed to satisfy such needs
  5. learning takes place as a result of the interaction of the organism with its environment.
  
24. One reason that children from lower-status homes sometimes have problems in schools is that:
  1. as a group they are not as bright as other children
  2. their needs are not satisfied by the goals offered in school
  3. they do not see school the same way middle-class children do
  4. they find it difficult establishing satisfactory relations with teachers

25. John has a mental age of 12 and a chronological age of 10. His IQ is:
1. 100
  2. 140
  3. 120
  4. below 100
26. When you encounter misbehavior in your classroom, which of the following is the most useful rule to remember?
1. decide beforehand what sort of treatment to use for each form of misbehavior and apply that treatment promptly
  2. always use the same form of discipline each time a certain type of misbehavior occurs
  3. ignore misbehavior
  4. investigate the causes of misbehavior
27. Psychologically speaking, the development of an individual is reflected in:
1. his emotional maturity
  2. his social maturity
  3. his intellectual maturity
  4. his physical maturity
  5. all of these
28. According to Piaget's theories, the rapidity with which cognitive development is accomplished by children depends on:
1. opportunities to learn
  2. freedom from neurological defects
  3. both of these
  4. none of these
29. The class activity dealing with the "swearing at the teacher" was used to illustrate the concept:
1. divergent thinking
  2. causal thinking
  3. projection
  4. behavior problem
30. The teacher who wishes to establish good communications in his classroom should:
1. be sure that the students understand what he is trying to tell them
  2. listen attentively to what the students are trying to tell him
  3. see to it that students have opportunities to communicate with each other
  4. do all of these
31. During adolescence and the middle years of childhood, children generally become more dependent emotionally on the opinions of:
1. their peers and playmates
  2. their parents
  3. their teachers
  4. older children

32. The first problem that must be resolved if we are to help lower-class children benefit from schools is that of:
1. understanding their values and behaviors.
  2. getting them to conform to middle-class patterns of behavior.
  3. getting them to understand middle-class values and behavior.
  4. providing a different curriculum for them.
33. The classroom behavior of a child is best understood:
1. when we single out certain incidents and events and study them in isolation.
  2. when we refer them to a psychologist for study and diagnosis.
  3. when we relate what we observe to other observations we have made on him.
  4. by his parents.
34. The patterns of behavior toward others that we learn during childhood:
1. tend to remain with us, to some degree, throughout our lives.
  2. tend to remain fixed and unchanged throughout our lives.
  3. are modified and tend to disappear under the impact of experience with playmates and peer groups.
  4. are modified and tend to disappear under the impact of school experiences.
35. The roleplaying activity developed by the committees was used to:
1. develop class cohesiveness
  2. encourage group competitiveness
  3. graphically illustrate defense mechanics
  4. identify leaders in the class
36. The only thing "objective" about "objective" tests is:
1. their scoring
  2. the interpretation of their score
  3. their statistical design
  4. the areas of the course they are to cover
37. When we describe a performance as satisfactory or unsatisfactory we are engaging in:
1. measurement procedures
  2. performance sampling
  3. evaluation
  4. measuring
38. The truest evaluation of the self-discipline of a given child is obtained:
1. during class when the teacher is present
  2. during class when the teacher is out of the room
  3. on the playground
  4. from his behavior in a variety of unsupervised situations
  5. from his responses to a questionnaire or scale



39. The self-concept refers to the individual's:
1. concept of his worth
  2. concept of self-esteem
  3. attitudes toward others in relation to himself
  4. attitudes toward himself in relations to his environment
  5. concept of social recognition
40. A "democratic" classroom is less likely than an "autocratic" classroom to result in:
1. greater task orientation
  2. hostile and aggressive behavior
  3. freedom to explore ideas
  4. student involvement in establishing goals
41. Five-year old Vickie, angry at her mother, spans her doll to relieve her feelings. She is:
1. projecting
  2. displacing aggression
  3. regressing
  4. rationalizing
  5. none of these
42. The behavioral symptoms we display when we attempt to avoid anxiety are termed:
1. defense mechanisms
  2. mental mechanisms
  3. escape mechanisms
  4. all of these
  5. none of these
43. "n AFF" is to "plans for marriage," as "n Ach" is to:
1. "courting and dating"
  2. "plans for college"
  3. "plans for a home"
  4. none of these
44. Of the following factors in the home, which would have the greatest bearing upon security and adjustment of the child?
1. the cultural status of the parents
  2. the psychological atmosphere of the home
  3. the acceptance of the home by the community
  4. the discipline of the home
  5. the orderliness of the home
45. Personality tests are best used:
1. under the supervision of a trained psychologist or counselor
  2. with every student in the classroom rather than with a select few
  3. by elementary teachers, rather than secondary teachers
  4. by teachers who are interested in finding out how emotionally disturbed the students are

46. In order to become advocates of what society expects of them, students must:
1. memorize the Constitution and Declaration of Independence
  2. conform to all the rules and regulations of the society
  3. accept the philosophy and principles of the society
  4. acquire attitudes and concepts that are compatible with what is accepted in the society
47. Jimmie Smith is confronted with the problem of his gang stealing other kids' bicycles. What will be the basis for his decision between right and wrong?
1. group attitudes are the most influential in decision making
  2. the basic concept between right and wrong will rule the decision
  3. the concept value of right and wrong will be determined by the environment
  4. the value of making a correct decision will be the desire for obtaining need satisfaction.
48. With increasing age, the child must develop independence needs so that he can acquire the behavior that will:
1. favorably influence the people he associates with
  2. free him of dependency on his parents
  3. guide him toward success
  4. facilitate learning of social standards
49. The modern consensus concerning the emphasis upon competition in the classroom is that:
1. it should be discouraged because it places children in a position in which they have no alternative but to fail
  2. it should be discouraged since invariably the victory goes to the one who deserves it least
  3. it should be encouraged to promote achievement
  4. it should be encouraged to give children a sense of achievement and status
  5. it should be used but with full awareness of its potentially harmful effect
50. A person who is quite selfish thinks his classmates are very self-centered. He is probably:
1. rationalizing
  2. projecting
  3. denying
  4. sublimating
51. One of the characteristics of the authoritarian personality is:
1. high intelligence
  2. little admiration for strength
  3. admiration for power
  4. sympathy

52. A teaching procedure is most effective when:

1. it forces the learner to learn
2. it is most convenient for the teacher
3. the learner can learn easily without much effort
4. it requires the learner to become actively involved

53. The concept of "developmental tasks" refers to:

1. learnings which are prerequisites to enrollment in the first grade if success in reading is expected
2. learnings which the social group expects all members to master at a certain age
3. learnings which must be completed before maturity
4. learnings which depend primarily upon the maturation of inherited structure
5. skills, the mastery of which depends almost exclusively upon physiological maturation

54. In order to learn a response, it is most important for the learner to:

1. listen to an explanation of the response carefully
2. try to give the response himself
3. watch the instructor perform the response several times
4. obtain as much information about the response as possible

55. Parents sometimes become concerned when they hear that their children are taking personality tests because:

1. they feel that such tests are an invasion of family history
2. the tests will take up time that should be devoted to more rewarding activities
3. they believe that teachers are not competent to administer such tests
4. they are afraid that children's mental health may be affected thereby