

STUDENT TEACHER VALUES AND BEHAVIOR PATTERNS

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STUDENT TEACHER VALUES AND BEHAVIOR PATTERNS

DISSERTATION

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CHAPTER I

INTRODUCTION

In spite of the importance attached to teaching, prospective teachers are often admitted to teacher education programs with little consideration of their qualifications other than that of being able to achieve a minimum average in various disciplines of the college curriculum. Only within the past few years have teacher education institutions begun to seriously consider the personality characteristics which many scholars believe appropriate for teachers.

In the past several years, hundreds of researchers have attempted to measure personality characteristics of so-called "effective teachers." Many other researchers have attempted to measure personality characteristics of prospective teachers in order to predict whether these people will be successful or unsuccessful as teachers.

There has been considerably less research dealing with the prediction of teacher behavior. Many believe that a great deal more research is needed in this area. If an individual's major type of teacher behavior can somehow be predicted, this information could be useful to public schools in the placement and assignment of personnel.

Statement of the Problem

The problem of this study concerned the differences in relationships between major teaching behaving styles and dominant personality interests expressed in values.

The purposes of the study were:

1. To determine if significantly different values were held by four groups of women student teachers who demonstrated different patterns of teacher behavior.*
2. To determine if significantly different values were held by four groups of men student teachers who demonstrated different patterns of teacher behavior.*
3. To determine if significantly different values were held by elementary women student teachers and secondary women student teachers.
4. To determine if significantly different values were held by elementary men student teachers and secondary men student teachers.
5. To determine if significantly different values were held by women who did student teaching in selected teaching fields.

*The student teachers referred to in purposes 1 and 2 were divided into four groups on the basis of the major pattern of teacher behavior which they demonstrated. The patterns of teacher behavior were as follows: (1) understanding, acceptant, friendly behavior; (2) systematic, businesslike, achievement-oriented behavior; (3) stimulating, imaginative, idea-centered behavior; and (4) unsatisfactory behavior.

6. To determine if significantly different values were held by men who did student teaching in selected teaching fields.

7. To determine if significantly different values were held by men and women student teachers.

Background and Significance of the Study

An overwhelming amount of research has been conducted with reference to teacher personality. Much of this research has been concerned with relating teacher personality to teacher effectiveness. To say that most of the research has been inconclusive is probably an understatement. In the Handbook of Research on Teaching, Getzels and Jackson state:

Despite the critical importance of the problem and a half-century of prodigious research effort, very little is known for certain about the nature and measurement of teacher personality, or about the relation between teacher personality and teacher effectiveness. The regrettable fact is that many of the studies so far have not produced significant results. Many others have produced only pedestrian findings. For example, it is said after the usual inventory tabulation that good teachers are friendly, cheerful, sympathetic, and morally virtuous rather than cruel, depressed, unsympathetic, and morally depraved. But when this has been said, not very much that is especially useful has been revealed (9, p. 574).

The futility of the research on teacher personality is often attributed to such factors as poor validity of the personality measuring instruments, failure to distinguish important subgroups in the teacher population, and failure to develop an adequate teacher-effectiveness criterion.

These factors have, no doubt, contributed to the failure to relate personality meaningfully to teacher effectiveness in the classroom. There is, however, an alternative hypothesis which has been suggested by Guba (11, p. 115-116). Guba points out that personality research as it has been conducted in the past generally rests on the assumption that there is an ideal teacher-personality pattern which all successful teachers have. Further, it has been assumed that personality shapes classroom behavior and that classroom behavior is predictable, given a knowledge of the teacher's personality. Guba believes that the generally negative results of research in the area of teacher personality may be due to the fact that the research has been based on erroneous assumptions. He states:

It seems at least plausible to assume that teachers have a variety of personality types which, within normal limits, may have little, if anything to do with success in the classroom, and that these cannot simply be averaged to produce the teacher personality. Thus, there is no reason to believe that a nurturant, supportive person; a dominant, achievement-oriented person; and a scholarly, retiring person may not be equally effective teachers, and that each may not develop an approach to teaching that is not predetermined by his personality but fulfilling of it. If this is the case, "teacher personality" is a myth and no more time should be wasted on it (11, p. 116).

It seems unlikely, however, that teacher personality is a myth. Many believe that personality is an important variable in teaching. Most experts agree with Getzels, who states, "The personality of the teacher is a significant

variable in the classroom. Indeed, some would argue it is the most significant variable" (9, p. 506).

Perhaps a turning point is needed in teacher personality research. Several new approaches have recently been suggested by Ryans (17). He believes that, without losing sight of the important need for developing means of recognizing good teachers, the attention of research might first more properly be directed toward the identification and estimation of some of the major patterns of teacher characteristics underlying teacher behavior (16, p. 1-2). Ryans has suggested that more research be done on the identification of major patterns of teacher behavior. More specifically, he has called for more research on the frequently noted patterns of understanding -- warm -- friendly behavior, responsible -- systematic -- businesslike behavior, and stimulating -- imaginative behavior (17, p. 109).

The present study investigated the relationship between major teaching behaving styles and dominant personality interests expressed in values. The study was an attempt to determine if significant differences in values, as measured by the Allport-Vernon-Lindzey Study of Values, existed between four groups of student teachers who exhibited four different patterns of teacher behavior.

It was proposed that if significant differences in values were found between the groups, then a classification

procedure would be developed from the data collected in the study. The classification procedure would enable researchers, administrators, teachers, and counselors to compare an individual's scores on the Study of Values with the scores of four groups of student teachers. It could then be determined which of the groups' values the student's values were most like.

The information obtained from the classification procedure could be valuable in a number of ways. Assuming that a valid classification procedure could be developed in the manner proposed, and assuming that the person to be classified was from a population similar to the one from which the standard groups were drawn, the information obtained from the classification procedure could be used in these ways: it could be used in counseling students who seek admission to teacher education programs, it could be used as an aid in recommending students for teaching positions, and it could be used as an aid in selecting teachers for specific types of teaching assignments.

Hypotheses

The following hypotheses were formulated and tested:

1. There would be a significant difference in mean score values between four groups of women student teachers who were judged by their university coordinators to have demonstrated different patterns of teacher behavior.

It was proposed that if a significant difference was found, then the following sub-hypotheses would be tested:

a. The mean scores of the women judged to be understanding, acceptant, and friendly would be significantly higher than the mean scores of the women judged to be systematic, businesslike, and achievement-oriented on each of these values: (1) social, (2) religious, and (3) aesthetic.

b. The mean scores of the women judged to be understanding, acceptant, and friendly would be significantly lower than the mean scores of the women judged to be systematic, businesslike, and achievement-oriented on each of these values: (1) economic, (2) political, and (3) theoretical.

c. The mean scores of the women judged to be understanding, acceptant, and friendly would be significantly higher than the mean scores of the women judged to be stimulating, imaginative, and idea-centered on each of these values: (1) social, (2) religious, and (3) political.

d. The mean scores of the women judged to be understanding, acceptant, and friendly would be significantly lower than the mean scores of the women judged to be stimulating, imaginative, and idea-centered on each of these values: (1) aesthetic, (2) theoretical, and (3) economic.

e. The mean scores of the women judged to be understanding, acceptant, and friendly would be significantly higher than the mean scores of the women judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) social, (2) religious, and (3) aesthetic.

f. The mean scores of the women judged to be understanding, acceptant, and friendly would be significantly lower than the mean scores of the women judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) economic, (2) political, and (3) theoretical.

g. The mean scores of the women judged to be systematic, businesslike, and achievement-oriented would be significantly higher than the mean scores of the women judged to be stimulating, imaginative, and idea-centered on each of these values: (1) economic, (2) political, and (3) religious.

h. The mean scores of the women judged to be systematic, businesslike, and achievement-oriented would be significantly lower than the mean scores of the women judged to be stimulating, imaginative, and idea-centered on each of these values: (1) aesthetic, (2) theoretical, and (3) social.

i. The mean scores of the women judged to be systematic, businesslike, and achievement-oriented would be significantly higher than the mean scores of the women judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) economic, (2) political, and (3) social.

j. The mean scores of the women judged to be systematic, businesslike, and achievement-oriented would be significantly lower than the mean scores of the women judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) theoretical, (2) aesthetic, and (3) religious.

k. The mean scores of the women judged to be stimulating, imaginative, and idea-centered would be significantly higher than the mean scores of the women judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) aesthetic, (2) theoretical, and (3) social.

l. The mean scores of the women judged to be stimulating, imaginative, and idea-centered would be significantly lower than the mean scores of the women judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) economic, (2) political, and (3) religious.

2. There would be a significant difference in mean score values between four groups of men student teachers who were judged by their university coordinators to have demonstrated different patterns of teacher behavior.

It was proposed that if a significant difference was found, then the following sub-hypotheses would be tested:

a. The mean scores of the men judged to be understanding, acceptant, and friendly would be significantly higher than the mean scores of the men judged to be systematic, businesslike, and achievement-oriented on each of these values: (1) social, (2) religious, and (3) aesthetic.

b. The mean scores of the men judged to be understanding, acceptant, and friendly would be significantly lower than the mean scores of the men judged to be systematic, businesslike, and achievement-oriented on each of these values: (1) economic, (2) political, and (3) theoretical.

c. The mean scores of the men judged to be understanding, acceptant, and friendly would be significantly higher than the mean scores of the men judged to be stimulating, imaginative, and idea-centered on each of these values: (1) social, (2) religious, and (3) political.

significantly lower than the mean scores of the men judged to be stimulating, imaginative, and idea-centered on each of these values: (1) aesthetic, (2) theoretical, and (3) economic.

e. The mean scores of the men judged to be understanding, acceptant, and friendly would be significantly higher than the mean scores of the men judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) social, (2) religious, and (3) aesthetic.

f. The mean scores of the men judged to be understanding, acceptant, and friendly would be significantly lower than the mean scores of the men judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) economic, (2) political, and (3) theoretical.

g. The mean scores of the men judged to be systematic, businesslike, and achievement-oriented would be significantly higher than the mean scores of the men judged to be stimulating, imaginative, and idea-centered on each of these values: (1) economic, (2) political, and (3) religious.

h. The mean scores of the men judged to be systematic, businesslike, and achievement-oriented would be significantly lower than the mean scores of the men judged to be stimulating, imaginative, and idea-centered

on each of these values: (1) aesthetic, (2) theoretical, and (3) social.

i. The mean scores of the men judged to be systematic, businesslike, and achievement-oriented would be significantly higher than the mean scores of the men judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) economic, (2) political, and (3) social.

j. The mean scores of the men judged to be systematic, businesslike, and achievement-oriented would be significantly lower than the mean scores of the men judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) theoretical, (2) aesthetic, and (3) religious.

k. The mean scores of the men judged to be stimulating, imaginative, and idea-centered would be significantly higher than the mean scores of the men judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) aesthetic, (2) theoretical, and (3) social.

l. The mean scores of the men judged to be stimulating, imaginative, and idea-centered would be significantly lower than the mean scores of the men judged to have demonstrated an unsatisfactory pattern of teacher behavior on each of these values: (1) economic, (2) political, and (3) religious.

3. There would be a significant difference in mean score values between the elementary women student teachers and the secondary women student teachers.

It was proposed that if a significant difference was found, then the following sub-hypotheses would be tested:

a. The elementary women would score significantly higher than the secondary women on each of these values: (1) social, (2) aesthetic, and (3) religious.

b. The secondary women would score significantly higher than the elementary women on each of these values: (1) economic, (2) political, and (3) theoretical.

4. There would be a significant difference in mean score values between the elementary men student teachers and the secondary men student teachers.

It was proposed that if a significant difference was found, then the following sub-hypotheses would be tested:

a. The elementary men would score significantly higher than the secondary men on each of these values: (1) social, (2) aesthetic, and (3) religious.

b. The secondary men would score significantly higher than the elementary men on each of these values: (1) economic, (2) political, and (3) theoretical.

5. There would be no significant difference in mean score values between the women who do student teaching in these subject matter areas:

- a. English (secondary)
- b. Foreign language (secondary)
- c. Home economics (secondary)
- d. Mathematics (secondary)
- e. Social science (secondary)
- f. Business education (secondary)
- g. Music (all-level)
- h. Art (all-level)

It was proposed that if a significant difference was found, then the mean score values for the women in the teaching fields listed above would be statistically analyzed and compared.

6. There would be no significant difference in mean score values between the men who do student teaching in these subject matter areas:

- a. Social science (secondary)
- b. Industrial arts (secondary)
- c. English (secondary)
- d. Physical education (secondary and all-level combined)
- e. Biology (secondary) and chemistry (secondary) combined
- f. Mathematics (secondary) and physics (secondary) combined

It was proposed that if a significant difference was found, then the mean score values for the men in the teaching fields listed above would be statistically analyzed and compared.

7. There would be a significant difference in mean score values between the men and women student teachers.

It was proposed that if a significant difference was found, then the following sub-hypotheses would be tested:

- a. The men would score significantly higher than the women on each of these values: (1) economic, (2) theoretical, and (3) political.
- b. The women would score significantly higher than the men on each of these values: (1) social, (2) aesthetic, and (3) religious.

Definition of Terms

For the purposes of this study, the following definitions were established:

1. Values--For the purposes of this study, values are considered to be the basic motives in personality.*
2. Study of Values--A scale for measuring the relative strength of these six basic interests or motives in personality: theoretical, economic, aesthetic, social, political,

*It should be noted that the authors of the Allport-Vernon-Lindzey Study of Values have used the terms values, motives, and interests interchangeably.

and religious (1, p. 3). The classification is based directly upon Eduard Spranger's Types of Men (19), a book which the authors of the test manual describe as "a brilliant work which defends the view that the personalities of men are best known through a study of their values or evaluative attitudes" (1, p. 3).

3. Six value types--The six types of values measured by the Study of Values are described in the test manual (1) and in Spranger's Types of Men (19). Neither Spranger nor the authors of the Study of Values imply that a given person belongs exclusively to one or another of these types. These descriptions are in terms of "ideal types." A brief description of each of the six value types follows:

a. The theoretical--The interests of the theoretical man are empirical, critical, and rational. He is an intellectualist, frequently a scientist or philosopher.

b. The economic--The economic man is utilitarian. He is thoroughly practical and conforms well to the prevailing stereotype of the average American businessman.

c. The aesthetic--The aesthetic man sees his highest value in form and harmony. Each experience is judged from the standpoint of grace, symmetry, or fitness. The aesthete tends toward individualism and self-sufficiency. He need not be a creative artist; he is

aesthetic if he but finds his chief interest in the artistic episodes of life.

d. The social--The highest value for this type is love of people. The social man prizes other persons as ends, and is therefore himself kind, sympathetic, and unselfish.

e. The political--The political man is interested primarily in power. He wishes above all else for personal power, influence, and renown. Leaders in any field generally have a high political value.

f. The religious--The religious man is mystical. He seeks to comprehend the cosmos as a whole and to relate himself to its embracing totality.

4. Student teachers--Those students enrolled in student teaching at North Texas State University during the spring semester, 1966.

5. Student teaching--The period of supervised teaching experience provided by the university as a part of its teacher education program.

6. University coordinators--Those full-time faculty members employed by the university who supervise students enrolled in student teaching.

7. Wilks' lambda test--An analysis of variance technique for testing the difference between two or more groups on several measures.

8. Hotelling's F^2 test--An analysis of variance technique for testing the difference between two groups on several measures.

9. Fisher's t technique--A statistical procedure for testing the difference between two groups on a single measure.

10. Classification procedure--A statistical procedure for determining the group membership of an individual. More specifically, a procedure for comparing the profile of an individual with that of a group.

Limitations of the Study

This study was limited in that the subjects used in the investigation consisted of only those students who had been admitted to the teacher education program at North Texas State University and who did their student teaching during the spring semester of 1966. The findings of the study can be said to apply only to the population used in the study. Until further studies of a similar nature are made, it would be inappropriate to generalize too broadly on the basis of these findings.

Another limitation was due to an acknowledged limitation of the Study of Values. The Study of Values does not indicate valueless personalities, nor does it indicate those who follow a hedonistic philosophy of life. This limitation

was inherent in Spranger's original formulation of the six types of men.

The following explanation is given in the test manual:

In selecting his six types, Spranger may be said to hold a somewhat flattering view of human nature. He does not allow for formless or valueless personalities, nor for those who follow an expedient or hedonistic philosophy of life. . . . His attempt to reduce hedonistic choices partly to economic and partly to aesthetic values seems unconvincing. If the present scale appears to the user to take a somewhat exalted view of the organization of personality . . . the limitation must be regarded as inherent in Spranger's original formulation (1, p. 3-4).

A final limitation concerned the classification scale which was used by the university coordinators in appraising the major pattern of teacher behavior demonstrated by the student teacher (Appendix). The classification scale contained only four categories, and the coordinator was asked to mark only one category. It was sometimes difficult to place a student teacher into a single category, but in so doing the university coordinator was simply indicating that, in his opinion, the adjectives used in that category most closely approximated the student's classroom behavior.

Selection and Development of the Instruments

In his book entitled Types of Men (19), Eduard Spranger, a noted German philosopher and pedagogue, defends the view that the personalities of men are best known through a study of their values or evaluative attitudes. Gordon W. Allport, one of America's outstanding psychologists and one who has

done a great deal of research in the area of values, has developed a test of values which is based directly upon Spranger's Types of Men. Along with Phillip E. Vernon and Gardner Lindzey, Allport constructed the test known as the Allport-Vernon-Lindzey Study of Values (2).

Research with the Study of Values has indicated that significant differences in values exist between teachers in different subject-matter areas and between teachers, as a group, and the general population (1, 12). The test was used in this study to determine if significant differences in values existed between student teachers who exhibited different patterns of teacher behavior. The Study of Values was selected for use in this study because it is generally considered to be the best value measuring instrument available.

The test is self-administering. Most of the subjects required fifteen to twenty minutes to answer the questions. The scoring process for a single booklet took about five minutes. The reliability coefficients reported in the manual (.90 for internal consistency and .88 for repeat reliability) seem satisfactory, and an item analysis has shown a positive correlation for each item with the total score for its value to be significant at the .01 level of significance (1, p. 9-10).

In reviewing the Study of Values in The Fifth Mental Measurements Yearbook, N. L. Gage concluded his appraisal with this statement:

For the present . . . the Study of Values will continue to serve us well. For classroom demonstration, for counseling and vocational guidance, and for research on a wide variety of psychological questions, the test is already very good. Maybe this is why we cannot help wanting it to be even better (8, p. 202).

The other instrument used in this study was a university coordinator's appraisal of the major pattern of teacher behavior demonstrated by the student teacher (Appendix). Adapted by the researcher, this appraisal, or classification scale, had previously been used by the researcher in a pilot study.

Three of the four categories used in the appraisal were adapted from what Ryans has referred to as the frequently noted patterns of understanding-- warm-- friendly behavior, responsible-- systematic-- businesslike behavior, and stimulating-- imaginative behavior (17, p. 109). The fourth category, which states that the student teacher demonstrated a pattern of teacher behavior which can best be described as unsatisfactory, was suggested by several members of the secondary education faculty at North Texas State University.

The classification scale was judged to be valid by five faculty members of the Department of Education and Psychology at North Texas State University. Several improvements were suggested by the judges, and the instrument has undergone a number of revisions.

The classification scale was tested for reliability in a pilot study conducted by the researcher. The test-retest method was used to determine reliability. Three weeks after they had originally appraised the teaching behaviors of several of their student teachers, nine university coordinators were asked to re-appraise the same students. A total of thirty re-appraisals were collected, and in twenty-four of the thirty cases, or in eighty per cent of the cases, the student was judged the same as he had been judged previously.

Organization of the Remainder of the Study

The remainder of this study is organized as follows: Chapter II contains related studies; Chapter III explains the methods and procedures of research; Chapter IV contains the presentation and analyses of data; and Chapter V presents the summary, conclusions, and recommendations of the study.

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CHAPTER II

RELATED STUDIES

In view of the fact that most educators consider the teacher's personality to be a significant variable in the teaching-learning process, it seems appropriate to review some of the basic concepts relating to the study of personality.

Ideas concerning personality vary greatly. An educator or a behavioral scientist who studies personality is concerned with a great deal more than merely the individual's social stimulus value. The descriptions and explanations given by educators and behavioral scientists are usually in terms of persistent patterns of behavior, attitudes, qualities, and conceptions which differentiate one human being from another (17, pp. 945-946).

To the behavioral scientist, the term "personality" denotes a complicated organization of human characteristics and behaviors. Involved in practically all definitions of personality is the concept of uniqueness. "It is in individual differences," states Guilford, "that we find the logical key to personality" (14, p. 5). Guilford believes that an individual's personality is his "unique pattern of traits" (14, p. 5).

The understanding of personality has long been a challenge to students in psychology and other related disciplines. Sarason (20) says that there are two discernible ways of finding a path to the goal of understanding the functioning of personality. One is through the development of a comprehensive theory in terms of which all or virtually all behaviors can be interpreted. The other method is a more empirical approach which attempts to establish techniques, data, and relationships relevant to theoretical formulations concerning only limited aspects of human behavior (20, p. vii).

Sarason states that the empirical approach characterizes contemporary research in the field of personality. He points out that this does not imply a rejection of the role of theoretical constructions in evolving concepts of personality, but rather that it indicates a recognition of the need to maintain defensible relationships between generalizations and theory, on the one hand, and research techniques and methodology on the other (20, p. vii).

Measurement and Assessment of Personality

When aspects of personality are either measured or assessed, the emphasis is usually upon those qualities which specify an individual's potentialities for action (23). Many investigators attempt to measure traits or factors. Others elect to represent personality by variables which relate to motivations, cognitive structures, and the like, or

to changes that occur during learning, or to mechanisms of adjustment and defense (17). These and other means of personality assessment may eventually provide us with the means of finding a meaningful theory of personality.

Guilford points out that there have been two distinct trends in the measurement and assessment of personality. One has been the movement toward a large number of trait names; the other toward a minimal number (14, p. 89). The latter of these trends is the trend toward "types" of personality. Personality types refer to attempted classifications of individuals according to the different response patterns in their behavior. The first types that were given serious consideration by psychologists were those originated by medical men--Hippocrates and Galen (14, p. 90). From the field of psychiatry, we have the well-known Kretschmer types (15), and from the field of psychoanalysis we have the famous personality types attributed to Freud--the oral, anal, and phallic types.

One difficulty with personality types is frequently noted. Guilford has expressed this difficulty as follows:

Those who have seriously proposed types as an approach to scientific description of personalities have had to recognize sooner or later that as few as two categories are simply not enough. They have had to either leave out many individuals who were in neither type category or leave out of account many behavior characteristics not included in the type concepts. . . . It is generally recognized in psychology that two, or even a few more than two, types are wholly inadequate. The main question is whether there should be an attempt

to save the type concepts by elaborating them and adding to them or whether they should be discarded in favor of some other descriptive concepts. And there is the question of whether there will be a need for types of some kind in a scheme of concepts, whatever kind of traits are employed (14, p. 91).

The value-measuring instrument used in the present study is based on a typological classification. The Study of Values is a scale for measuring the relative strength of six basic motives in personality. The classification is based directly upon Eduard Spranger's book, Types of Men (24), in which the author describes six different types of men. Spranger does not imply that a given man belongs exclusively to one or another of his six types. His depictions are in terms of "ideal types," a conception which is fully explained in his Types of Men (24, pp. 109-122).

The Teacher Characteristics Study

The Teacher Characteristics Study directed by Ryans (19) is, without doubt, the most extensive study of teachers ever made. During the more than six years of the study, over 1,700 schools participated in the research, and approximately 100 separate research projects were completed. Many of the studies involved classroom observation by trained observers who attempted to discover patterns of teacher behavior and related pupil behavior.

The purposes of the study were stated as follows:

The Teacher Characteristics Study was conducted with two possible uses of the results in mind: first, by school systems as an aid in identifying teachers who,

at the time of selection for employment or perhaps in connection with promotion, have characteristics similar to those deemed important and desirable by the particular school system and the culture it represents, and, second, by teacher education institutions as an aid to a better understanding of teacher characteristics and associated conditions, which would contribute to improved procedures for selecting teacher candidates and to the improvement of professional courses and curricula (19, p. 11).

All of the findings of the Teacher Characteristics Study cannot be reported here. Several of the particularly relevant outcomes may, however, be noted briefly.

The following three patterns of teacher behavior were found to stand out in separate factor analyses of the data:

Pattern X₀--warm, understanding, friendly, versus aloof, egocentric, restricted teacher behavior.

Pattern Y₀--responsible, businesslike, systematic, versus evading, unplanned, slipshod teacher behavior.

Pattern Z₀--stimulating, imaginative, surgent, versus dull, routine teacher behavior.

The Teacher Characteristics Study sought other evidences of teacher behavior in addition to those provided by assessments of overt classroom behavior. In order to extend the understanding of conative and cognitive aspects of teacher behavior, the study undertook a number of investigations directed at analyses of teachers' attitudes, their educational viewpoints, their verbal intelligence, and their emotional adjustment. Among the findings were (1) The attitudes of elementary school teachers toward pupils, administrators,

fellow teachers, and nonadministrative personnel were markedly more favorable than were similar attitudes of secondary school teachers. (2) Actual pupil behavior in the classroom did not appear to be related to the attitudes held by teachers. (3) The educational viewpoints expressed by secondary school teachers were more traditional, while those of elementary teachers were more permissive. (4) The verbal understanding scores of secondary school teachers were significantly higher than those of elementary school teachers. (5) Male teachers at both the elementary and secondary school levels appeared to be markedly more emotionally stable than female teachers.

The actual sampling of teachers' classroom behaviors is sometimes impossible, and the use of direct-question inventory methods may result in the falsification of responses. Because of these factors, the researchers undertook an alternate approach to the estimation of the teachers' classroom behaviors. They attempted to predict teacher behaviors from correlates of those behaviors. Much of the Teacher Characteristics Study was devoted to determining these correlates of teacher classroom behavior.

Materials were selected and assembled into an instrument called the Teacher Characteristics Schedule (19, pp. 159, 165, 177-184). This instrument is a self-report inventory made up of 300 multiple-choice and check-list items referring to personal preferences, self-judgments,

activities, biographical data, and the like. The schedule yielded scores for the following characteristics of teachers (19, p. 388):

X_{CO} --warm, understanding, friendly, versus aloof, ego-centric, restricted classroom behavior.

Y_{CO} --responsible, businesslike, systematic, versus evading, unplanned, slipshod classroom behavior.

Z_{CO} --stimulating, imaginative, versus dull, routine classroom behavior.

R_{CO} --favorable versus unfavorable opinions of pupils.

R_{1CO} --favorable versus unfavorable opinions of democratic classroom procedures.

Q_{CO} --favorable versus unfavorable opinions of administrative and other school personnel.

B_{CO} --learning-centered ("traditional") versus child-centered ("permissive") educational viewpoints.

I_{CO} --superior verbal understanding (comprehension) versus poor verbal understanding.

S_{CO} --emotional stability (adjustment) versus instability.

Another finding of the study seems especially relevant. The Teacher Characteristics Study was concerned with comparing teachers who fell into different groups with regard to classroom behavior. Three groups of teachers were identified, one group comprising teachers with observer ratings one standard deviation or more above the mean on each of the

three central classroom behavior dimensions of the study (friendly versus aloof, systematic versus slipshod, stimulating versus dull), the second group comprising teachers with observer ratings between .2 of a standard deviation on either side of the mean on each of the three dimensions, the third group comprising teachers with observer ratings one standard deviation or more below the mean on each of the three dimensions. Characteristics of the groups were determined by responses to the Teacher Characteristics Schedule. The more notable differences between those generally assessed high and those generally assessed low are given as follows:

There was a general tendency for high teachers to: be extremely generous in appraisals of the behavior and motives of other persons; possess strong interest in reading and literary affairs; be interested in music, painting, and the arts in general; participate in social groups; enjoy pupil relationships; prefer non-directive (permissive) classroom procedures; manifest superior verbal intelligence; and be superior with respect to emotional adjustment. On the other hand, low teachers tended generally to: be restrictive and critical in their appraisals of other persons; prefer activities which did not involve close personal contacts; express less favorable opinions of pupils; manifest less high verbal intelligence; show less satisfactory emotional adjustment; and represent older age groups (19, pp. 397-398).

The Teacher Characteristics Study is, indeed, a valuable set of researches dealing with teacher properties and teacher behavior. It is a research study in every sense of the phrase. Consequently, the results are disappointing to those seeking a quick answer to the question of what constitutes a good teacher. Perhaps the greatest value of the study is to be

found in the guidelines which it has established for future researchers.

Studies Concerning Teacher Personality and Teacher Behavior

In their seventy-page review of studies dealing with teacher personality published in the Handbook of Research on Teaching, Getzels and Jackson state:

The personality of the teacher is a significant variable in the classroom. Indeed, some would argue it is the most important variable. The educational impact of an Ichabod Crane or a Mark Hopkins, of a Mr. Chips or a Socrates, is surely not due to what he knows, or even what he does, but in a very real sense to what he is. There has always been a concern with the personal qualities of teachers, and recently this concern has become the basis for a growing body of research (11, p. 506).

Literally thousands of studies dealing with teacher personality have been made within the past few decades. Two excellent bibliographies are Barr's (6) and Domas and Tiedeman's (8). The Domas and Tiedeman compilation is an annotated bibliography of some 1,000 entries.

Some of the earliest systematic studies of teacher and pupil behavior were those of H. H. Anderson and his associates (2, 3, 4, 5). Beginning in the late 1930's and continuing for several years, Anderson's studies were concerned with the measurement of domination and socially integrative behavior in teacher's contacts with young children.

Domination was defined by Anderson as "the behavior of a person who is inflexible, rigid, deterministic, who

disregards the desires or judgment of others, who himself in the conflict of differences has the answers" (2, p. 89). Integrative behavior was defined as "behavior leading to a oneness or commonness of purpose among differences. . . . It is noncoercive; it is the expression of one who attempts to understand others, who is open to new data. It is both an expression of growth in the person using it and a stimulus to growth in others" (2, p. 89). Anderson acknowledged that no behavior is entirely integrative, and that no behavior short of extermination is entirely dominative; but he maintained that specific acts or "contacts" can be said to be expressions of domination or of integrative behavior.

Anderson's studies produced several interesting findings. Among the findings were (1) The dominative and integrative contacts of the teacher set a pattern of behavior that spreads throughout the classroom. Domination stimulates further domination, and integration stimulates further integration. Furthermore, the pattern which a teacher develops in one year is likely to be continued by the teacher the following year with different pupils. (2) When the teacher utilizes a higher proportion of integrative contacts, the pupils show more spontaneity and initiative. (3) When the teacher utilizes a higher proportion of dominative contacts, the pupils are more easily distracted from school work, and they tend to show greater compliance to teacher domination.

Withall (26) in attempting to measure social and emotional climates in classrooms, has shown that classifying the teacher's verbal statements into seven categories produces an index of teacher behavior which is similar to Anderson's integrative - dominative ratio.

Flanders (10) has studied the reactions of pupils to various patterns of teacher behavior. By creating experimental learning situations in which one pupil at a time was exposed to contrasting patterns of teacher behavior, Flanders found that a sustained pattern of dominative teacher behavior was consistently disliked by pupils. It was also found that dominative teacher behavior reduced the ability of pupils to recall the material studied. Integrative teacher behavior, on the other hand, was found to produce positive pupil reactions.

The question of whether certain types of teachers should be placed with certain types of students has often been raised. Is it possible that a given teacher will be more effective with one group of students than with another? Judging from this statement by Ryans it appears as though he would answer this question affirmatively:

It seems reasonable to suspect that learning emphases and teacher roles vary in relation to the characteristics of the pupils taught, to grade level, and to the field of learning (subject matter). An aloof, rigorously academic teacher might be well suited to teach bright, academically minded, well-adjusted

high school students, but he might be entirely unsuited to teach certain younger children vitally in need of sympathy and understanding above all else (19, p. 370).

Ryans goes on to say that effective teaching must be considered to be relative to perhaps three major sets of conditions: the social or cultural group in which the teacher operates; the grade level and subject matter taught; and the intellectual and personal characteristics of the pupils taught (19, p. 371).

Many efforts have been made to see how certain types of teacher behavior affect certain types of students. Not unlike other studies dealing with teacher effectiveness, the studies in this area have occasionally yielded conflicting results. Some seeming plausible conjectures about autocratic and democratic teaching behaviors, for example, do not appear to be supported by some recent studies. After reviewing several studies dealing with pupil personality and teacher personality, Sears and Hilgard (22) reported that business-like and matter of fact approaches to teaching yield pupil creativity as well as pupil achievement. These same authors then appear to contradict this by stating: "Teachers who are insistent on quiet, orderly behavior, who teach by informative statements, produce task-oriented behavior favorable to convergent thinking; teachers who show personal interest and who avoid critical individual evaluation tend to favor the more creative products of divergent thinking" (22, p. 208-209).

In a study by Sears, reported by Sears and Hilgard (22, p. 204), gains in achievement for children of superior mental ability were found to be related to various teacher behaviors. These behaviors included the frequency with which the teacher emphasizes the expanding and amplifying of ideas, the giving of alternatives and possibilities rather than of straight statements of facts, and also the amount of listening to the child that is done by the teacher.

A study by Grimes and AllinSmith (13) concerned with compulsivity and anxiety provides another illustration of pupil personality as affecting responsiveness to teacher behavior. The researchers tested the hypothesis that in the early years of schooling both highly anxious and highly compulsive children would respond to structured methods of teaching, such as the teaching of reading by phonics. In agreement with this hypothesis, they found differences by the third grade favoring phonics over word recognition for such children.

When teaching method was held constant, Grimes and AllinSmith (13) found that differences in achievement correlated with the personality characteristics of the pupils. The results can be summarized as follows:

1. Compulsive children do better than less compulsive children under structured conditions.
2. Compulsive children are neither favored nor disfavored when teaching is unstructured.

3. Anxious children do as well as nonanxious children under structured conditions.

4. Anxious children have their achievement impeded in unstructured settings.

Several personality inventories have been used in attempts to predict teacher effectiveness. Among the most popular of these are the Guilford-Zimmerman Temperament Survey and Cattell's Sixteen Personality Factor Questionnaire. Erickson (9) used Cattell's test and found that four of the sixteen factors yielded significant correlations with nine measures of teaching effectiveness. When the results of such studies become better established, those responsible for teacher selection and teacher placement may be helped to make wiser choices.

Studies Concerning Teacher Values

The Allport-Vernon-Lindzey Study of Values has been used in a number of studies concerning teachers. Originally published in 1931 and revised in 1951, the Study of Values aims to measure the relative strength of six basic interests or motives in personality: the theoretical, economic, aesthetic, social, political, and religious. In the test manual accompanying the Study of Values, the authors have presented data for various occupational groups, including a group of sixty-eight male graduate students in education (1, p. 14). Compared with the male graduate students on whom the norms

were based, the men in education were higher on aesthetic and social values and lower on economic and religious values. Comparable data for women education students do not appear in the test manual.

A more detailed picture of the responses of education students to the Study of Values appears in MacLean, Gowan, and Gowan's study of 1,700 teaching candidates at the University of California at Los Angeles (16). The researchers presented mean scores for both sex and teaching specialty subgroups. The U.C.L.A. study confirmed two of the differences noted in the test manual: the men in education were lower in economic and higher in social values than were men in general. The women education students shared one important characteristic with the men. They too were lower in economic values than were the norms for their sex.

Although the differences between the education students and the norms are interesting, they are probably not as important for the understanding of teacher behavior as are the differences between students in different subject-matter areas. MacLean, Gowan, and Gowan (16) found that for each type of value, the difference among the various subject-matter groups was greater than the difference between the mean for the entire education student sample and the population norms. It was found, for example, that students majoring in theater arts were considerably higher in aesthetic

and theoretical values than were students majoring in physical education. The physical education students, however, were considerably higher in religious, political, and economic values.

In 1958, Gowan (12) presented correlation coefficients between the scores of 240 students on the Study of Values and their scores on two Teacher Prognosis scales derived from the Minnesota Multiphasic Personality Inventory. Two of the value scores-- social and aesthetic-- showed significant positive correlations with the Teacher Prognosis scales, and a third-- economic-- showed a significant negative correlation.

A more direct test of the Study of Values to discriminate between successful and unsuccessful student teachers was made in 1946 by Seago (21). Seago correlated the value scores of thirty-one students with ratings of their student teaching success two years later. The economic value showed the highest correlation with effectiveness ratings; there was a negative correlation of $r=-.33$ between the economic value and the effectiveness ratings.

Another attempt to relate values to teaching effectiveness was made by Tanner (25) in 1954. Tanner's subjects consisted of two groups of education students classified as superior ($N=44$) and inferior ($N=22$) on the basis of faculty ratings and scores on the Minnesota Teacher Attitude Inventory.

Tanner found that the superior women were significantly lower on economic and higher on social values than were the inferior women. There were no significant differences between the superior and inferior men.

None of the studies reviewed thus far were concerned with the question of whether differences in values exist between groups of teachers who exhibit different patterns of teacher behavior. Most of the studies in which the Study of Values has been used have attempted to relate teacher values to teacher effectiveness.

The present study was not an attempt to determine or predict teacher effectiveness. Instead, it investigated the relationship between major teaching behaving styles and dominant personality interests expressed as values. The study was an attempt to determine if significant differences in values, as measured by the Allport-Vernon-Lindzey Study of Values, existed between four groups of student teachers who exhibited four different major patterns of teacher behavior.

One of the studies included in the Teacher Characteristics Study was concerned with relating teacher values to teacher behavior (19, p. 134). This study involved a group of elementary school teachers who were divided into "high and low criterion groups" (upper 27 per cent and lower 27 per cent) with respect to each of three teacher behavior patterns: understanding--warm--friendly behavior, responsible--

systematic -- businesslike behavior, and stimulating--
imaginative behavior. It was found that the teacher behavior
patterns did not vary significantly with scores on the Study
of Values. For these teachers, at least, it appears that
values measured by the Study of Values are unrelated to the
teachers' classroom behavior patterns.

Summary

The understanding of personality has long been a
challenge to students in psychology and other related dis-
ciplines. An educator or a behavioral scientist who studies
personality is concerned with a great deal more than the
individual's social stimulus value. Their studies usually
concern behaviors, attitudes, qualities, and conceptions
which differentiate one human being from another.

In attempting to measure or assess personality, many
investigators measure traits or factors. Others represent
personality by variables which relate to motivations, cogni-
tive structures, and the like, or to mechanisms of adjustment
and defense (17). According to Guilford (14), there have
been two distinct trends in the measurement and assessment
of personality. One has been toward a large number of trait
names, and the other toward a minimal number. The latter of
these trends is the trend toward personality "types."

The Teacher Characteristics Study directed by Ryans (19)
is probably the most classical and the broadest study of

teachers that has ever been made. Ryans' focus was on both teacher properties and teacher behavior. He found three patterns of teacher behavior to stand out in factor analyses of the data. These patterns of behavior can be succinctly described as warmth, organization, and stimulation.

A great amount of research has been conducted with reference to teacher personality. Hundreds of researchers have investigated possible relationships between various personality attributes and teacher effectiveness. But, by and large, the results of these investigations have been disappointing. There has been considerably less research dealing with teacher behavior, and many believe that more research is needed in this area.

A survey of the literature revealed only one study in which the investigator was concerned with the question of whether differences in values, as measured by the Allport-Vernon-Lindzey Study of Values, existed between groups of teachers who exhibited different patterns of classroom behavior. In this single study (19, p. 134), in which only elementary school teachers were involved, it was found that the teacher behavior patterns did not vary significantly with scores on the Study of Values.

Chapter III describes the methods and procedures of research used in the present study. Both the methods of securing the data and the statistical procedures are explained.

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CHAPTER III

METHODS AND PROCEDURES OF RESEARCH

The purpose of this chapter is to explain the procedures used in securing and treating the data for this study of student teacher values and behavior patterns.

Two instruments were used to collect the data for the study. The value-measuring instrument was the Allport-Vernon-Lindzey Study of Values. A classification scale (Appendix) was used by the university coordinators to indicate the major pattern of teacher behavior demonstrated by the student teacher.

Procedures for Collecting Data

The Study of Values was administered to 520 students at North Texas State University prior to their student teaching experience in the spring semester of 1966. Both elementary and secondary student teachers were included. Before beginning the tests, the students recorded the following data on a card attached to the front of their test booklets:

1. Name.
2. Sex.
3. Teaching field.
4. University coordinator.

5. Grade level of student teaching (elementary, secondary, or all-level).

6. Period of student teaching (first eight weeks, second eight weeks, sixteen weeks, or elementary block).

The classification scale used by the university coordinator in appraising the student teacher's major pattern of classroom behavior was adapted by the researcher from findings reported in the Teacher Characteristics Study, a well-known series of studies directed by David Ryans (3). Three of the four categories of the classification scale were adopted from the three patterns of teacher behavior found to stand out in data collected in the Teachers Characteristics Study. The three teacher behavior patterns which Ryans found to stand out were: "warm, understanding, friendly vs. aloof, egocentric, restricted teacher behavior; responsible, businesslike, systematic vs. evading, unplanned, slipshod teacher behavior; and stimulating, imaginative, surgent vs. dull, routine teacher behavior" (3, p. 382). Ryans states that these behavior syndromes are not unique to the Teacher Characteristics Study. He points out that they are also supported by other factor analyses of teacher behavior data (3, p. 382).

The fourth category of the classification scale states that the student teacher most frequently demonstrated a pattern of teacher behavior which can best be described as

unsatisfactory. This category was suggested by several members of the secondary education faculty at North Texas State University.

The classification scales were collected from each of the university coordinators at the end of each student teaching period.

Procedures for Treating Data

The tenability of the hypotheses of this study was determined by examining the data and treating them statistically as described below.

Hypothesis 1 was tested by Wilks' lambda test (1, p. 61), and each of the sub-hypotheses was tested by Fisher's t technique (2, p. 102). The Wilks' lambda test is an analysis of variance technique which is used to test the difference between several groups on several measures. Fisher's t technique is used to test the difference between two groups on a single measure. The Wilks test yields an F ratio and Fisher's technique yields a t ratio. While the F ratio is useful in determining if a group of means vary more than should be expected by chance, it does not indicate where the difference is. By using Fisher's t technique to test the difference between two specific means, the exact location of the difference, or differences, may be determined.

Two problems were encountered in testing the first two hypotheses. The first problem concerned the small number of

student teachers who were judged to have demonstrated an unsatisfactory pattern of teacher behavior. The N for this group, among both the women student teachers and the men student teachers, was not large enough to be treated by the Wilks' lambda procedure. Only eleven women and six men were judged to have demonstrated an unsatisfactory pattern of teacher behavior. It was decided, therefore, that the "unsatisfactory" groups would be eliminated from the statistical comparisons, but that a discussion of the characteristics of these groups would be included in the study.

The second problem concerned the variance or dispersion of the value scores for each of the groups of student teachers. One of the assumptions of the Wilks' lambda procedure is homogeneity of variance. The data of this study did not meet this assumption. In order to correct this difficulty, the value scores for each of the groups of student teachers were transformed to logarithms. The logarithmic transformation of the scores provided for homogeneity of variance by reducing the effects of the extreme scores.

Hypothesis 2 was tested in the same manner as hypothesis 1. Wilks' lambda test was used to determine if a significant difference existed between the mean scores of the men student teachers on the six values measured by the Study of Values. Fisher's t technique was used to test each of the sub-hypotheses.

Hypotheses 3 and 4 were tested by Hotelling's T^2 test (4, p. 644). This test is an analysis of variance technique

used to test the difference between two groups on several different measures. Each of the sub-hypotheses was tested by Fisher's t technique.

Hypotheses 5 and 6 were tested by Wilks' lambda test. When the F ratio indicated that a significant difference existed between the values of the student teachers in the different subject-matter fields, Fisher's t technique was used to determine which of the values were significantly different.

Hypothesis 7 was tested by Hotelling's T^2 test. When the F ratio indicated that a significant difference in values existed between the men and women student teachers, Fisher's t technique was used to determine which of the values were significantly different.

Each hypothesis of this study was accepted or rejected at the .05 level of significance. In both education and psychology, the probability values of .05 and .01 seem to be the levels of significance most often used. Although the use of these particular values is based in part on convention, there are also certain statistical considerations which are relevant. Due to the nature of the study, it was decided that the .05 level of significance was appropriate for use in this study. All of the statistical computations were conducted at the IBM Computer Center at North Texas State University.

Summary

The Study of Values was administered to 520 student teachers prior to their student teaching experience. Each student recorded the following data on a card attached to the front of the test booklet: student's name, sex, teaching field, university coordinator, grade level of student teaching, and period of student teaching. Twenty-seven university coordinators used a classification scale to indicate the major pattern of teacher behavior demonstrated by the student teachers whom they supervised.

In testing each of the hypotheses of this study, an analysis of variance technique was employed to determine if significant differences in values existed between various groups of student teachers. When the analysis of variance technique indicated a significant difference in values, Fisher's t technique was used to determine which of the values differed significantly.

Chapter IV presents the data that were collected in this study. A complete analysis of the data and how they relate to the hypotheses of the study is given.

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CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The data of this study are presented and analyzed in this chapter. In light of these data and their interpretation the tenability of each of the hypotheses of this study was tested. Each hypothesis was arbitrarily accepted or rejected at the .05 level of significance. When the level of significance reached the .01 level, this was reported, and when the .001 level was reached, this, too, was reported. All of the statistical computations were done by the IBM computer at North Texas State University.

Table I gives a breakdown of the subjects according to their sex and the grade level at which they did student teaching.

TABLE I
NUMBERS OF STUDENT TEACHERS ACCORDING TO
SEX AND GRADE LEVEL TAUGHT

| Grade Level at Which Student Teaching Was Done | Women | Men | Total |
|--|-------|-----|-------|
| Elementary | 176 | 9 | 185 |
| Secondary | 180 | 108 | 288 |
| All-level | 34 | 13 | 47 |
| Total | 390 | 130 | 520 |

A study of the data presented in Table I reveals that a total of 520 student teachers served as subjects for this study. Three hundred ninety of the subjects were women and 130 were men. One hundred eighty-five of the students did their student teaching in an elementary school, whereas 288 did their student teaching in a secondary school. Forty-seven of the students did student teaching in both an elementary school and a secondary school.

Hypothesis 1

According to hypothesis 1, there would be a significant difference in the values held by four groups of women student teachers who were judged to have demonstrated different major patterns of teacher behavior. As pointed out in the previous chapter, the group that was judged to have demonstrated an unsatisfactory pattern of teacher behavior was eliminated from the statistical comparisons because of the fact that the N for this group ($N=11$) was not large enough to be treated by the Wilks' lambda procedure. Table II presents the data used in comparing the values of the other three groups of women who demonstrated different patterns of teacher behavior.

An examination of the scores given in Table II reveals that a Wilks' lambda value of .62 produced an F ratio of 15.03 which was significant at the .001 level. This indicates that the values of the three groups of student teachers varied more than should be expected by chance. Hypothesis 1 was therefore accepted.

TABLE II

MEANS, STANDARD DEVIATIONS, *t* RATIOS, AND LEVELS OF SIGNIFICANCE USED IN COMPARING THE VALUES OF THREE GROUPS OF WOMEN STUDENT TEACHERS WHO WERE JUDGED TO HAVE DEMONSTRATED DIFFERENT MAJOR PATTERNS OF TEACHER BEHAVIOR

| Variable | Women Judged to be Understanding, Acceptant, and Friendly (N=154) vs. Women Judged to be Systematic, Businesslike, and Achievement-oriented (N=127) | | | |
|-------------------|---|-----------------|----------|-----------------------|
| | Mean | S.D. | <i>t</i> | Level of Significance |
| Theoretical value | 35.60* 36.80** | 5.87* 7.25** | -1.24 | N.S. |
| Economic value | 38.19* 38.04** | 6.93* 6.58** | .07 | N.S. |
| Aesthetic value | 40.81* 41.19** | 7.26* 7.80** | -.27 | N.S. |
| Social value | 40.43* 38.74** | 6.39* 6.14** | 2.03 | .05 |
| Political value | 38.66* 38.39** | 6.00* 6.01** | .37 | N.S. |
| Religious value | 46.31* 46.84** | 6.78* 7.10** | -.51 | N.S. |

Wilks' lambda=.62

F=15.03 (Significant at the .001 level) DF1=12 DF2=664

*Indicates the score for the first group named.

**Indicates the score for the second group named.

TABLE II -- Continued

| Women Judged to be Understanding, Acceptant, and Friendly (N=154) vs. Women Judged to be Stimulating, Imaginative, and Idea-centered (N=59) | | | | Women Judged to be Systematic, businesslike, and Achievement-oriented (N=127) vs. Women Judged to be Stimulating, Imaginative, and Idea-centered (N=59) | | | |
|---|--------|-------|-----------------------|---|--------|------|-----------------------|
| Mean | S.D. | t | Level of Significance | Mean | S.D. | t | Level of Significance |
| 35.60* | 5.87* | -1.28 | N.S. | 36.80* | 7.25* | -.30 | N.S. |
| 37.14** | 7.30** | | | 37.14** | 7.30** | | |
| 38.19* | 6.93* | 1.85 | N.S. | 38.04* | 6.58* | 1.74 | N.S. |
| 36.36** | 7.42** | | | 36.36** | 7.42** | | |
| 40.81* | 7.26* | -.62 | N.S. | 41.19* | 7.80* | -.40 | N.S. |
| 42.05** | 9.78** | | | 42.05** | 9.78** | | |
| 40.43* | 6.39* | .91 | N.S. | 38.74* | 6.14* | -.66 | N.S. |
| 39.71** | 7.46** | | | 39.71** | 7.46** | | |
| 38.66* | 6.00* | -.53 | N.S. | 38.39* | 6.01* | -.79 | N.S. |
| 39.14** | 5.94** | | | 39.14** | 5.94** | | |
| 46.31* | 6.78* | 1.01 | N.S. | 46.84* | 7.10* | 1.37 | N.S. |
| 45.61** | 8.88** | | | 45.61** | 8.88** | | |

Further examination of the scores presented in Table II reveals that of the eighteen t ratios used in comparing the values of the three groups, only one was found to be significant at the .05 level. The women who were judged by their university coordinators to have demonstrated an understanding--acceptant--friendly pattern of teacher behavior scored significantly higher on the social value than the women who were judged to have demonstrated a systematic--businesslike--achievement-oriented pattern of teacher behavior. This finding is consistent with the first part of sub-hypothesis 1a, which stated that the women judged to be understanding, acceptant, and friendly would score significantly higher on the social value than the women judged to be systematic, businesslike, and achievement-oriented. Of the eighteen sub-hypotheses tested, this was the only one which was accepted.

It is important to note that only one of the eighteen t ratios shown in Table II is statistically significant. This indicates that when the values of the women who were judged to have demonstrated three different patterns of teacher behavior were compared, seventeen of the eighteen differences in values were so small that they could have resulted merely from chance variation.

Due to the lack of evidence that significant differences in values existed between the women who were judged to have demonstrated different patterns of teacher behavior, the classification procedure discussed in Chapter I was not

developed. The classification procedure would have been useful only had a number of differences in values been found to exist between the women who demonstrated different patterns of teacher behavior.

Hypothesis 2

Hypothesis 2 stated that there would be a significant difference in the values held by four groups of men student teachers who were judged to have demonstrated different major patterns of teacher behavior. As was the case with the women student teachers, the group of men who were judged to have demonstrated an unsatisfactory pattern of teacher behavior was eliminated from the statistical computations because of the fact that the N for this group (N=6) was not large enough to be treated by the Wilks' lambda test. Table III presents the data used in comparing the values of the other three groups of men who demonstrated different major patterns of teacher behavior.

An investigation of the information presented in Table III reveals that a Wilks' lambda value of .89 produced an F ratio of .99, which was not significant. This indicates that the values of the three groups of men did not vary more than should be expected by chance. Therefore, hypothesis 2, which was stated as a research hypothesis, was rejected, and the classification procedure which was discussed in Chapter I was not developed.

TABLE III

MEANS, STANDARD DEVIATIONS, *t* RATIOS, AND LEVELS OF SIGNIFICANCE USED IN COMPARING THE VALUES OF THREE GROUPS OF MEN STUDENT TEACHERS WHO WERE JUDGED TO HAVE DEMONSTRATED DIFFERENT MAJOR PATTERNS OF TEACHER BEHAVIOR

| Variable | Men Judged to be Understanding, Acceptant, and Friendly (N=50) vs. Men Judged to be Systematic, Businesslike, and Achievement-oriented (N=45) | | | |
|-------------------|---|------------------|----------|-----------------------|
| | Mean | S.D. | <i>t</i> | Level of Significance |
| Theoretical value | 42.40* 42.96** | 6.03* 6.78** | -.25 | N.S. |
| Economic value | 41.00* 41.64** | 9.25* 6.87** | -.66 | N.S. |
| Aesthetic value | 35.16* 31.91** | 9.14* 7.40** | 1.64 | N.S. |
| Social value | 37.18* 36.71** | 6.70* 6.42** | .27 | N.S. |
| Political value | 44.80* 43.13** | 6.43* 6.64** | 1.26 | N.S. |
| Religious value | 39.46* 43.64** | 10.79* 8.24** | -2.21 | .05 |

Wilks' lambda=.89

$F= .99$ (Not significant) $DF_1=12$ $DF_2=204$

*Indicates the score for the first group named.

**Indicates the score for the second group named.

TABLE III -- Continued

| Men Judged to be Understanding, Acceptant, and Friendly (N=50) vs. Men Judged to be Stimulating, Imaginative, and Idea-centered (N=15) | | | | Men Judged to be Systematic, businesslike, and Achievement-oriented (N=45) vs. Men Judged to be Stimulating, Imaginative, and Idea-centered (N=15) | | | |
|--|---------|------|-----------------------|--|---------|-------|-----------------------|
| Mean | S.D. | t | Level of Significance | Mean | S.D. | t | Level of Significance |
| 42.40* | 6.03* | | | 42.96* | 6.78* | | |
| 42.53** | 9.08** | -.19 | N.S. | 42.53** | 9.08** | .36 | N.S. |
| 41.00* | 9.25* | | | 41.64* | 6.87* | | |
| 41.80** | 7.59** | -.48 | N.S. | 41.80** | 7.59** | -.02 | N.S. |
| 35.16* | 9.14* | | | 31.91* | 7.40* | | |
| 38.60** | 13.50** | -.92 | N.S. | 38.60** | 13.50** | -2.04 | .05 |
| 37.18* | 6.70* | | | 36.71* | 6.42* | | |
| 36.33** | 7.83** | .55 | N.S. | 36.33** | 7.83** | .36 | N.S. |
| 44.80* | 6.43* | | | 43.13* | 6.64* | | |
| 41.80** | 5.37** | 1.52 | N.S. | 41.80** | 5.37** | .63 | N.S. |
| 39.46* | 10.79* | | | 43.64* | 8.24* | | |
| 38.93** | 9.14** | .07 | N.S. | 38.93** | 9.14** | 1.46 | N.S. |

The data presented in Table III were processed on an IBM computer. The computer calculated Fisher's t ratio between all possible combinations of groups even though the F ratio was not significant. The eighteen t scores which were computed are included in Table III. Although two of the eighteen t scores appear to be significant at the .05 level of confidence, it would not be appropriate to consider these differences to be significant in light of the non-significant F ratio. As McNemar points out:

When and only when F , as an over-all test, indicates significant differences among the groups may we safely make further tests to see whether two selected means differ significantly. . . . The t test may be misleading in that such snooping is apt to lead to the selection of those differences that are the largest, a process which tends to capitalize on chance differences with a resultant vitiating of the level of significance (4, p. 285).

The findings relative to hypotheses 1 and 2 indicate that the teacher behavior patterns did not vary significantly with scores on the Allport-Vernon-Lindzey Study of Values. These findings are consistent with the findings of one of the studies of the Teacher Characteristics Study (5, p. 134).

Hypothesis 3

According to hypothesis 3, there would be a significant difference in mean score values between the elementary women student teachers and the secondary women student teachers. Table IV presents information relative to the testing of this hypothesis.

TABLE IV

MEANS, STANDARD DEVIATIONS, t RATIOS, AND LEVELS OF SIGNIFICANCE USED IN COMPARING THE VALUES OF ELEMENTARY WOMEN STUDENT TEACHERS AND SECONDARY WOMEN STUDENT TEACHERS

| Variable | Elementary Women Student Teachers (N=176) | | Secondary Women Student Teachers (N=180) | | t | Level of Significance |
|-------------------|---|------|--|------|-------|-----------------------|
| | Mean | S.D. | Mean | S.D. | | |
| Theoretical value | 36.22 | 6.50 | 36.77 | 6.87 | -.77 | N.S. |
| Economic value | 37.04 | 6.44 | 38.49 | 7.37 | -1.97 | .05 |
| Aesthetic value | 41.28 | 6.96 | 41.20 | 8.87 | .09 | N.S. |
| Social value | 40.36 | 6.61 | 38.95 | 6.47 | 2.03 | .05 |
| Political value | 38.27 | 5.99 | 38.86 | 5.91 | -.93 | N.S. |
| Religious value | 46.82 | 6.41 | 45.73 | 8.12 | 1.41 | N.S. |

Hotelling's $T^2=7.01$

$F=1.15$ (Not significant) $DF_1=6$ $DF_2=349$

A study of the data presented in Table IV shows that a Hotelling's T^2 value of 7.01 produced a non-significant F ratio of 1.15. This indicates that the values of the elementary women and the secondary women did not differ more than should be expected due to chance variation. Hypothesis 3 was therefore rejected.

Again, as in the presentation of data relative to the testing of hypothesis 2, t ratios are included in the table even though it is not appropriate to consider any of these ratios to be statistically significant. The t scores are presented so that trends in the data may be recognized. For example, after examining the data presented in Table IV it would be safe to conclude that there was a tendency for the elementary women involved in the study to score higher than the secondary women on the social scale of the Study of Values. Likewise, it would be appropriate to conclude that there was a tendency for the secondary women to score higher than the elementary women on the economic scale of the Study of Values.

Hypothesis 4

Hypothesis 4 stated that there would be a significant difference in mean score values between the elementary men student teachers and the secondary men student teachers. Table V presents information relative to a comparison of the mean scores for the elementary men and the secondary men student teachers.

An inspection of the scores given in Table V reveals that a Hotelling's T^2 value of 3.15 produced a non-significant F ratio of .50. This indicates that the values of the elementary men student teachers and the secondary men student teachers did not vary more than should be expected due to

TABLE V

MEANS, STANDARD DEVIATIONS, t RATIOS, AND LEVELS
OF SIGNIFICANCE USED IN COMPARING THE VALUES
OF ELEMENTARY MEN STUDENT TEACHERS AND
SECONDARY MEN STUDENT TEACHERS

| Variable | Elementary Men Student Teachers (N=9) | | Secondary Men Student Teachers (N=108) | | t | Level of Signi- ficance |
|----------------------|---|-------|--|------|------|----------------------------------|
| | Mean | S.D. | Mean | S.D. | | |
| Theoretical value | 43.67 | 5.42 | 42.60 | 6.87 | .45 | N.S. |
| Economic value | 42.67 | 8.27 | 41.35 | 7.98 | .47 | N.S. |
| Aesthetic value | 33.22 | 5.96 | 34.61 | 9.80 | -.42 | N.S. |
| Social value | 38.44 | 5.91 | 36.57 | 6.81 | .79 | N.S. |
| Political value | 41.67 | 6.67 | 43.90 | 6.42 | -.99 | N.S. |
| Religious value | 40.33 | 11.46 | 40.96 | 9.60 | -.18 | N.S. |

Hotelling's $T^2=3.15$

$F=.50$ (Not significant) $DF_1=6$ $DF_2=110$

chance. Therefore, hypothesis 4, which was stated as a research hypothesis, was rejected.

Hypothesis 5

According to hypothesis 5, there would be no significant differences in values between the women who did student

teaching in eight selected subject matter fields. The teaching fields selected were those secondary and all-level fields in which a minimum of ten women student teachers were placed.

It was proposed that if the analysis of variance technique indicated significant differences in values among the student teachers in the eight selected teaching fields, then Fisher's t test would be used to determine which of the values were significantly different. Table VI presents the means and standard deviations used in comparing the values of the women who did student teaching in the eight selected teaching fields.

An examination of the data presented in Table VI reveals that a Wilks' lambda score of .18 produced an F ratio of 8.76, which was significant at the .001 level. This means that significant differences in values, as measured by the Study of Values, were found among the women who did student teaching in the eight selected teaching fields.

After the Wilks test indicated that the means for the eight groups of student teachers varied more than should be expected by chance, Fisher's t technique was used to test the difference between each of the 168 pairs of mean scores. Of the 168 t ratios used to test the differences between the means, sixty were found to be significant. The t ratios which were found to be significant are presented in Tables

TABLE VI

MEANS AND STANDARD DEVIATIONS USED IN COMPARING THE
VALUES OF WOMEN WHO DID STUDENT TEACHING IN
SELECTED TEACHING FIELDS

| Variable | Teaching Fields* | | | | | | | |
|-------------------|----------------------------|-------|---------------------------------|------|--------------------------------|------|--|------|
| | Art (All-level) N=11 | | Business (Secondary) N=30 | | English (Secondary) N=57 | | Foreign Language (Secondary) N=14 | |
| | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| Theoretical value | 36.09 | 5.44 | 34.97 | 5.91 | 36.75 | 6.98 | 37.36 | 7.15 |
| Economic value | 33.18 | 3.51 | 45.00 | 6.15 | 35.68 | 7.26 | 34.36 | 6.00 |
| Aesthetic value | 52.73 | 5.19 | 35.57 | 5.30 | 44.14 | 8.05 | 46.21 | 9.27 |
| Social value | 36.64 | 7.44 | 38.97 | 5.59 | 38.17 | 6.19 | 39.64 | 9.26 |
| Political value | 37.90 | 7.35 | 38.70 | 4.56 | 39.37 | 5.73 | 35.21 | 9.26 |
| Religious value | 43.45 | 11.92 | 46.80 | 5.64 | 45.88 | 8.74 | 47.21 | 9.88 |

Wilks' lambda=.18

F=8.76 (Significant at the .001 level) DF1=42 DF2=829

*Only those teaching fields with a minimum of ten women student teachers were selected.

TABLE VI -- Continued

| Teaching Fields* | | | | | | | |
|---------------------------------------|------|------------------------------------|------|------------------------------|------|---------------------------------------|------|
| Home Economics (Secondary) N=26 | | Mathematics (Secondary) N=10 | | Music (All-level) N=20 | | Social Science (Secondary) N=21 | |
| Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| 35.73 | 4.43 | 40.80 | 8.46 | 31.95 | 6.42 | 36.81 | 7.31 |
| 41.81 | 4.19 | 38.30 | 4.47 | 33.05 | 7.50 | 37.28 | 8.25 |
| 36.96 | 7.33 | 36.90 | 5.41 | 46.30 | 5.24 | 42.14 | 9.27 |
| 39.96 | 5.22 | 42.10 | 6.63 | 42.10 | 6.24 | 40.33 | 7.23 |
| 37.50 | 5.22 | 33.60 | 5.55 | 34.05 | 5.00 | 42.67 | 5.78 |
| 48.04 | 6.21 | 48.30 | 6.65 | 52.55 | 6.79 | 40.76 | 8.22 |

VII - XII. Each of these tables presents significant t ratios relating to one of the six values measured by the Study of Values.

Table VII presents the significant t ratios and the levels of significance relevant to the theoretical scale of the Study of Values.

TABLE VII
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE THEORETICAL VALUES OF WOMEN
IN SELECTED TEACHING FIELDS

| Teaching Fields* | <u>t</u> for the Theoretical Values | Level of Significance |
|--------------------------------|-------------------------------------|-----------------------|
| Mathematics vs. business | 2.41** | .05 |
| Mathematics vs. home economics | 2.05** | .05 |
| Mathematics vs. music | 3.44** | .01 |
| English vs. music | 2.78** | .01 |
| Foreign language vs. music | 2.34** | .05 |
| Social science vs. music | 2.34** | .05 |

*The women in each of these teaching fields did their student teaching at the secondary level. The women in music, however, are an exception; they did their student teaching at both the elementary level and the secondary level.

**Indicates favoring the first group named.

An investigation of the scores presented in Table VII shows that the women who did student teaching in mathematics scored significantly higher on the theoretical scale of the Study of Values than the women who did student teaching in business, home economics, and music. This is not surprising in view of the fact that the theoretical scale attempts to measure the relative value which a person attributes to the discovery of scientific truths. Persons who score high on the theoretical scale often seek to observe and to reason, and they frequently seek to order and systematize their knowledge (1, p. 4).

Further examination of the data in Table VII reveals the following information: the women who did student teaching in English scored significantly higher on the theoretical scale than the women in music; the women who did student teaching in foreign language scored significantly higher on the theoretical scale than the women in music; and the women who did student teaching in social science scored significantly higher on the theoretical scale than the women in music.

Table VIII presents data pertaining to the economic values of women who did student teaching in the selected subject matter fields.

A study of the information presented in Table VIII reveals that the women who did student teaching in business

TABLE VIII
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE ECONOMIC VALUES OF WOMEN
IN SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Economic Values | Level of Signifi- cance |
|-------------------------------------|-----------------------------------|-------------------------------|
| Business vs. art | 5.05** | .001 |
| Business vs. English | 6.22** | .001 |
| Business vs. foreign language | 4.95** | .001 |
| Business vs. mathematics | 2.76** | .01 |
| Business vs. music | 6.23** | .001 |
| Business vs. social science | 4.08** | .001 |
| Home economics vs. art | 3.61** | .001 |
| Home economics vs. English | 3.90** | .001 |
| Home economics vs. foreign language | 3.38** | .01 |
| Home economics vs. social science | 2.32** | .05 |
| Home economics vs. music | 4.43** | .001 |
| Social studies vs. music | 2.04** | .05 |

*The women in each of these teaching fields did their student teaching at the secondary level. The women in music and art, however, are exceptions; they did their student teaching at both the elementary level and the secondary level.

**Indicates favoring the first group named.

and those who did student teaching in home economics tended to score relatively high on the economic scale of the Study of Values. On the other hand, the women who did student teaching in art and those who did student teaching in music tended to score relatively low on the economic scale.

The economic scale of the Study of Values attempts to measure the degree to which a person is interested in what is useful. The interest in utility often develops to embrace the practical affairs of the business world (1, p. 4).

Table IX presents information concerning the differences in the aesthetic values of women who did student teaching in selected subject matter fields. The t ratios which were found to be significant and the levels of significance are presented.

An inspection of the data presented in Table IX shows that the women who did student teaching in art scored significantly higher on the aesthetic value than the women in each of the other seven groups. Others who scored relatively high on the aesthetic scale were women who did student teaching in the following subject matter fields: music, English, foreign language, and social science.

The women who did student teaching in the fields of home economics, mathematics, and business scored relatively low on the aesthetic scale of the Study of Values. The aesthetic value is, in a sense, diametrically opposed to the

TABLE IX
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE AESTHETIC VALUES OF WOMEN
IN SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Aesthetic Values | Level of Signifi- cance |
|-------------------------------------|------------------------------------|-------------------------------|
| Art vs. English | 3.50** | .001 |
| Art vs. mathematics | 4.86** | .001 |
| Art vs. foreign language | 2.17** | .05 |
| Art vs. music | 2.30** | .05 |
| Art vs. home economics | 5.88** | .001 |
| Art vs. social science | 3.81** | .001 |
| Art vs. business | 6.53** | .001 |
| Music vs. business | 4.99** | .001 |
| Music vs. home economics | 4.21** | .001 |
| Music vs. mathematics | 3.25** | .01 |
| English vs. mathematics | 2.83** | .01 |
| English vs. home economics | 4.07** | .001 |
| English vs. business | 5.10** | .001 |
| Foreign language vs. business | 4.41** | .001 |
| Foreign language vs. mathematics | 3.02** | .01 |
| Foreign language vs. home economics | 3.74** | .001 |
| Social science vs. home economics | 2.37** | .05 |
| Social science vs. business | 3.10** | .01 |

*The women in each of these teaching fields did their student teaching at the secondary level. The women in music and art, however, are exceptions; they did their student teaching at both the elementary level and the secondary level.

**Indicates favoring the first group named.

theoretical; the aesthetic value is concerned with the diversity of experience, whereas the theoretical is concerned with the identities of experience (1, p. 4).

Table X provides data relevant to the differences in the social values of the women who did student teaching in the selected subject matter areas. The t ratios which were significant and the levels of significance are presented.

TABLE X
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE SOCIAL VALUES OF WOMEN
IN SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Social Values | Level of Significance |
|-------------------|---------------------------|-----------------------|
| Music vs. art | 2.20** | .05 |
| Music vs. English | 2.28** | .05 |

*The women in English did their student teaching at the secondary level only. Those in music and art did their student teaching at both the elementary level and the secondary level.

**Indicates favoring the first group named.

An examination of the t ratios and the levels of significance presented in Table X reveals that the women who did student teaching in music scored significantly higher on the social value than those who did student teaching in art or English. The social scale of the Study of Values attempts to measure the relative value which a person holds for altruistic love.

Table XI presents information concerning the differences in the political values of women who did student teaching in eight selected teaching fields. The t ratios used to test the differences and the levels of significance are given.

TABLE XI
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE POLITICAL VALUES OF WOMEN
IN SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Political Values | Level of Significance |
|-------------------------------------|------------------------------|-----------------------|
| Social science vs. art | 2.24** | .05 |
| Social science vs. business | 2.45** | .05 |
| Social science vs. English | 2.27** | .05 |
| Social science vs. foreign language | 3.79** | .001 |
| Social science vs. home economics | 3.09** | .01 |
| Social science vs. music | 4.84** | .001 |
| Social science vs. mathematics | 4.14** | .001 |
| English vs. mathematics | 2.95** | .01 |
| English vs. foreign language | 2.44** | .05 |
| English vs. music | 3.59** | .001 |
| Business vs. music | 2.83** | .01 |
| Business vs. mathematics | 2.45** | .05 |
| Home economics vs. music | 2.04** | .05 |

*The women in each of these teaching fields did their student teaching at the secondary level. The women in music and art, however, are exceptions; they did their student teaching at both the elementary level and the secondary level.

** Indicates favoring the first group named.

An investigation of the information given in Table XI indicates that the women who did student teaching in the field of social science scored significantly higher on the

political scale than the women in each of the other seven teaching fields. Those who did student teaching in English and those who did student teaching in business also tended to score high on the political scale.

Women who did student teaching in mathematics, music, or foreign language tended to score low on the political value. The political scale attempts to measure the value which a person places on personal power, influence, and prestige.

Table XII provides data pertaining to the differences in religious values held by women in selected teaching fields. The t scores used to test the differences and the levels of significance are presented.

A study of the data provided in Table XII reveals that the women who did student teaching in music tended to score high on the religious scale of the Study of Values. On the other hand, the women who did student teaching in the field of social science tended to score relatively low on the religious scale.

According to the test manual for the Study of Values, the highest value of the religious person may be called "unity" (1, p. 5). Spranger defines the religious person as one "whose mental structure is permanently directed to the creation of the highest and absolutely satisfying value experience" (6, p. 213).

TABLE XII
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE RELIGIOUS VALUES OF WOMEN
IN SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Religious Values | Level of Signifi- cance |
|-------------------------------------|------------------------------------|-------------------------------|
| Music vs. social science | 4.63** | .001 |
| Music vs. art | 2.97** | .01 |
| Music vs. business | 2.44** | .05 |
| Music vs. English | 3.15** | .01 |
| Mathematics vs. social science | 2.41** | .05 |
| Home economics vs. social science | 3.04** | .01 |
| Foreign language vs. social science | 2.30** | .05 |
| Business vs. social science | 2.60** | .05 |
| English vs. social science | 2.46** | .05 |

*The women in each of these teaching fields did their student teaching at the secondary level. The women in music and art, however, are exceptions; they did their student teaching at both the elementary and the secondary level.

**Indicates favoring the first group named.

Hypothesis 6

Hypothesis 6 stated that there would be no significant differences in values between the men who did student teaching in six selected teaching fields. The teaching fields selected were those secondary and all-level fields in which a minimum of ten men were placed. It was proposed that if the analysis of variance test indicated significant differences in values among the student teachers in the six selected teaching fields, then Fisher's t test would be used

to determine which of the values differed significantly.

Table XIII gives the means and standard deviations used in comparing the values of the men who did student teaching in the six selected teaching fields. Also presented in Table XIII is the Wilks' lambda score, the F ratio yielded by the Wilks technique, the degrees of freedom, and the level of significance of the F ratio.

An examination of the information presented in Table XIII shows that a Wilks' lambda score of .06 produced an F ratio of 12.32, which was significant at the .001 level of confidence. The degrees of freedom associated with the numerator equaled 30 and the degrees of freedom associated with the denominator equaled 374. The F ratio indicates that significant differences in values were found among the men who did student teaching in the selected teaching fields.

After the Wilks test indicated that the means for the six groups varied more than should be expected due to chance, Fisher's t test was used to test the difference between each of the ninety pairs of mean scores. Twenty-five of the ninety t scores were found to be significant. Tables XIV - XIX present the significant t scores and the levels of significance for each of the t scores. Each of the tables presents data concerning one of the six value scales of the Study of Values.

TABLE XIII

MEANS AND STANDARD DEVIATIONS USED IN COMPARING THE
VALUES OF MEN WHO DID STUDENT TEACHING IN
SELECTED TEACHING FIELDS

| Variable | Teaching Fields* | | | |
|-------------------|---|------|--------------------------------|-------|
| | Biology and Chemistry Combined (Secondary) N=10 | | English (Secondary) N=12 | |
| | Mean | S.D. | Mean | S.D. |
| Theoretical value | 49.60 | 7.53 | 38.00 | 7.94 |
| Economic value | 42.10 | 4.46 | 37.67 | 9.47 |
| Aesthetic value | 30.30 | 3.69 | 50.67 | 9.31 |
| Social value | 33.30 | 4.86 | 36.67 | 9.62 |
| Political value | 41.00 | 6.54 | 38.08 | 4.29 |
| Religious value | 43.70 | 5.20 | 38.92 | 12.59 |

Wilks' lambda=.06

F=12.32 (Significant at the .001 level) DF1=30 DF2=374

*Only those teaching fields with a minimum of ten student teachers were selected.

TABLE XIII -- Continued

| Teaching Fields* | | | | | | | |
|--|------|---|------|---|------|---------------------------------------|-------|
| Industrial Arts (Secondary) N=15 | | Mathematics and Physics combined (Secondary) N=10 | | Physical Education (Secondary & All-level) N=27 | | Social Science (Secondary) N=30 | |
| Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| 43.53 | 5.51 | 44.20 | 4.40 | 44.11 | 4.76 | 41.37 | 6.27 |
| 49.67 | 5.76 | 39.80 | 6.27 | 39.33 | 6.15 | 40.63 | 7.36 |
| 32.93 | 8.30 | 28.60 | 3.53 | 31.30 | 7.48 | 33.90 | 8.04 |
| 34.00 | 5.85 | 36.90 | 5.36 | 37.04 | 4.66 | 38.17 | 6.96 |
| 43.00 | 5.59 | 45.20 | 6.95 | 46.07 | 4.67 | 46.50 | 6.26 |
| 36.87 | 6.69 | 45.30 | 8.86 | 42.15 | 7.96 | 39.43 | 11.00 |

Table XIV presents data concerning the differences in the theoretical values of men who did student teaching in the six selected teaching fields.

TABLE XIV
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE THEORETICAL VALUES OF MEN IN
SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Theoretical Values | Level of Significance |
|---|--------------------------------|-----------------------|
| Biology and chemistry combined vs. industrial arts | 2.40** | .05 |
| Biology and chemistry combined vs. physical education | 2.39** | .05 |
| Biology and chemistry combined vs. social science | 3.64** | .001 |
| Biology and chemistry combined vs. English | 4.37** | .001 |
| Industrial arts vs. English | 2.31** | .05 |
| Mathematics and physics combined vs. English | 2.34** | .05 |
| Physical education vs. English | 2.84** | .01 |

*The men in each of these teaching fields did their student teaching at the secondary level. The men in physical education, however, are an exception; they did their student teaching at both the elementary level and the secondary level.

**Indicates favoring the first group named.

An inspection of the data presented in Table XIV reveals that the men who did their student teaching in the field of biology and those who did their student teaching in the field of chemistry tended to score highly on the theoretical scale of the Study of Values. Further inspection of the data reveals that the men who did their student teaching in the field of English tended to score relatively low on the theoretical scale.

Table XV provides information relative to the differences in the economic scores of the men who did student teaching in the selected teaching fields. The t ratios and the levels of significance are provided.

An investigation of the information provided in Table XV indicates that the men who did their student teaching in the field of industrial arts scored significantly higher on the economic scale of the Study of Values than the men in each of the other five teaching fields. And an investigation of Table XIII reveals that the industrial arts group had a mean score of 49.67 for the economic value, whereas the means for the other five groups ranged from 37.67 to 42.10. This indicates that the men in industrial arts tended to score considerably higher on the economic scale of the Study of Values than did the men in the other teaching fields.

TABLE XV
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE ECONOMIC VALUES OF MEN IN
SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Economic Values | Level of Signifi- cance |
|---|-----------------------------------|-------------------------------|
| Industrial arts vs. physical education | 4.58** | .001 |
| Industrial arts vs. English | 4.42** | .001 |
| Industrial arts vs. social science | 4.08** | .001 |
| Industrial arts vs. mathematics and physics combined | 3.45** | .01 |
| Industrial arts vs. biology and chemistry combined | 2.65** | .05 |

*The men in each of these teaching fields did their student teaching at the secondary level. The men in physical education, however, are an exception; they did their student teaching at both the elementary level and the secondary level.

**Indicates favoring the first group named.

Data relevant to the differences in the aesthetic values of the men in the six selected teaching fields are presented in Table XVI.

A study of the t ratios and the levels of significance given in Table XVI shows that the men who did student teaching in the field of English scored significantly higher on the aesthetic value than the men in each of the other five

TABLE XVI
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE AESTHETIC VALUES OF MEN IN
SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Aesthetic Values | Level of Signifi- cance |
|---|------------------------------------|-------------------------------|
| English vs. physical education | 7.27** | .001 |
| English vs. mathematics and physics combined | 6.71** | .001 |
| English vs. social science | 6.39** | .001 |
| English vs. biology and chemistry combined | 6.19** | .001 |
| English vs. industrial arts | 5.96** | .001 |

*The men in each of these teaching fields did their student teaching at the secondary level. The men in physical education, however, are an exception; they did their student teaching at both the elementary level and the secondary level.

**Indicates favoring the first group named.

teaching fields. An examination of Table XIII reveals that the English group had a mean of 50.67 for the aesthetic value, whereas the means for the other groups ranged from 28.60 to 33.90.

Table XVII presents information concerning significant differences in the social values of the men in the selected teaching fields.

TABLE XVII
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE SOCIAL VALUES OF MEN IN
SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Social Values | Level of Signifi- cance |
|--|---------------------------------|-------------------------------|
| Social science vs. biology and chemistry combined | 2.04** | .05 |

*The men in each of these teaching fields did their student teaching at the secondary level.

**Indicates favoring the first group named.

A study of the data given in Table XVII reveals that only one significant difference was found in the social values of the men who did student teaching in the six selected teaching fields. The men who did student teaching in the field of social science scored significantly higher on the social value than the men who did student teaching in the fields of biology or chemistry.

Information concerning the differences in the political values of the men in the selected teaching fields is presented in Table XVIII.

An examination of the information presented in Table XVIII shows that the men who did student teaching in the fields of social science and physical education tended to

TABLE XVIII
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE POLITICAL VALUES OF MEN IN
SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Political Values | Level of Signifi- cance |
|--|------------------------------------|-------------------------------|
| Social science vs. English | 4.21** | .001 |
| Social science vs. biology and chemistry combined | 2.57** | .05 |
| Physical education vs. English | 3.39** | .001 |
| Physical education vs. biology and chemistry combined | 2.34** | .05 |
| Mathematics and physics combined vs. English | 2.84** | .05 |
| Industrial arts vs. English | 2.17** | .05 |

*The men in each of these teaching fields did their student teaching at the secondary level. The men in physical education, however, are an exception; they did their student teaching at both the elementary level and the secondary level.

**Indicates favoring the first group named.

score highly on the political scale of the Study of Values. On the other hand, the men who did student teaching in the fields of English, biology, and chemistry tended to score relatively low on the political scale.

Table XIX provides data relevant to the differences in the religious values of the men in the selected subject matter fields.

TABLE XIX
SIGNIFICANT t RATIOS AND LEVELS OF SIGNIFICANCE
FOR THE RELIGIOUS VALUES OF MEN IN
SELECTED TEACHING FIELDS

| Teaching Fields* | t for the Religious Values | Level of Signifi- cance |
|---|------------------------------------|-------------------------------|
| Mathematics and physics combined vs. industrial arts | 2.16** | .05 |

*The men in each of these teaching fields did their student teaching at the secondary level.

**Indicates favoring the first group named.

An inspection of the data given in Table XIX reveals that only one significant difference was found in the religious values of the men who did student teaching in the selected subject matter fields. The men who did student teaching in mathematics and physics scored significantly higher on the religious scale of the Study of Values than the men who did student teaching in industrial arts.

Hypothesis 7

Hypothesis 7 stated that there would be a significant difference in the mean score values for the men and women student teachers. It was proposed that if the analysis of variance technique indicated significant differences in values between the men and women, then Fisher's t test would be used to determine which of the values differed significantly.

Table XX presents the means, standard deviations, t ratios, and levels of significance used in testing hypothesis 7.

TABLE XX
MEANS, STANDARD DEVIATIONS, t RATIOS, AND LEVELS
OF SIGNIFICANCE USED IN COMPARING THE VALUES
OF MEN AND WOMEN STUDENT TEACHERS

| Variable | Men Student Teachers (N=130) | | Women Student Teachers (N=390) | | t | Level of Signi- ficance |
|----------------------|------------------------------------|-------|--------------------------------------|------|---------|-------------------------------|
| | Mean | S.D. | Mean | S.D. | | |
| Theoretical value | 42.47 | 6.80 | 36.31 | 6.75 | 8.99* | .001 |
| Economic value | 41.02 | 8.04 | 37.36 | 7.09 | 4.92* | .001 |
| Aesthetic value | 35.46 | 10.37 | 41.79 | 8.04 | -7.19** | .001 |
| Social value | 36.58 | 6.56 | 39.74 | 6.63 | -4.71** | .001 |
| Political value | 43.37 | 6.46 | 38.32 | 6.07 | 8.07* | .001 |
| Religious value | 41.11 | 9.92 | 46.50 | 7.63 | -6.43** | .001 |

Hotelling's $T^2=174.60$

$F=28.82$ (Significant at the .001 level) $DF_1=6$ $DF_2=513$

*Indicates favoring the men student teachers

**Indicates favoring the women student teachers.

A study of the data presented in Table XX reveals that a Hotelling's T^2 score of 174.60 produced an F ratio of 28.82,

which was significant at the .001 level of significance. This indicates that the values of the men and women differed more than should be expected by chance. Hypothesis 7 was therefore accepted, and Fisher's t test was used to determine which of the values were significantly different.

An examination of the data provided in Table XX shows that the men scored significantly higher than the women on each of these values: theoretical, economic, and political. Further study of the data reveals that the women scored significantly higher than the men on each of these values: aesthetic, social, and religious. Each of the differences in values between the men and women student teachers was in the direction which had been hypothesized in the sub-hypotheses for hypothesis 7, and each of the differences was significant at the .001 level of significance. Therefore, each of the sub-hypotheses was accepted at the .001 level of significance.

The findings relevant to hypothesis 7 and to each of the sub-hypotheses for hypothesis 7 are consistent with the findings of MacLean, Gowan, and Gowan (3). In a study of 1,700 teaching candidates at the University of California at Los Angeles, MacLean, Gowan, and Gowan found that the men scored significantly higher than the women on the theoretical, economic, and political scales of the Study of Values, and that the women scored significantly higher on the aesthetic, social, and religious values.

Procedural Changes in the Study

In the course of this study, several procedural changes were made. As noted previously, due to the small number of students whose major pattern of teacher behavior was judged to be unsatisfactory, the unsatisfactory groups were eliminated from the statistical computations used in testing hypotheses 1 and 2.

Two other procedural changes were necessary. Due to the nature of the teaching-learning situation in the field of speech and hearing therapy, the classification scale used by the university coordinators was found to be unsatisfactory in appraising the major pattern of teacher behavior demonstrated by the student teachers in this field. Therefore, the student teachers in speech and hearing therapy were not considered in the testing of the hypotheses concerning the major patterns of teacher behavior demonstrated by the student teachers.

Another problem concerned the all-level student teachers. Because of the fact that approximately one-third of the all-level student teachers were judged to have demonstrated a different pattern of classroom behavior in the elementary school than in the secondary school, the all-level student teachers were not considered in the testing of the hypotheses concerning the major patterns of teacher behavior demonstrated by the student teachers.

Characteristics of Student Teachers Judged
to Have Demonstrated an Unsatisfactory
Pattern of Teacher Behavior

A classification scale (Appendix) was used by twenty-seven university coordinators to appraise the major patterns of teacher behavior demonstrated by 467 student teachers. Of the 467 student teachers, only seventeen were judged by their university coordinator to have demonstrated a major pattern of teacher behavior which could best be described as unsatisfactory.

There are perhaps three major factors which account for the small number of unsatisfactory ratings. First, an examination of the appraisal instrument reveals that there are three positive categories as compared to only one negative category. Secondly, the type of value judgement required by the unsatisfactory category appears to be different than the type of value judgment required by the other three categories. And, finally, various screening practices, including the requirements for admission to the teacher education program, may have eliminated a number of students who would have been unsatisfactory student teachers.

Eleven women were judged to have demonstrated an unsatisfactory pattern of teacher behavior. Six of the women were elementary student teachers and five were secondary student teachers. When their values, as measured by the Study of Values, were compared to those of the women in the other

three groups, it was found that the women in the unsatisfactory group scored relatively higher on the theoretical, economic, and aesthetic values, and relatively lower on the social, political, and religious values.

All six of the men who were judged to have demonstrated an unsatisfactory pattern of classroom behavior were secondary student teachers. When their values were compared to those of the other men in the study, it was found that the men in the unsatisfactory group tended to score relatively higher on the economic and aesthetic values and relatively lower on the social, political, and religious values.

Comments which were made by the university coordinators indicated that the student teachers who were judged to be unsatisfactory were usually either lazy and uninspiring, or else they were inclined to encounter difficulties in human relations.

Comments Concerning the Classification Scale

Perhaps a few comments should be made concerning the classification scale (Appendix). It is important to understand that the student teachers were classified according to their major pattern of teacher behavior. When a university coordinator placed a student into a category, he was not indicating that the student's behavior was this and this only; he was simply indicating that, in his opinion, the adjectives used in that particular category best described the student's major pattern of classroom behavior.

On approximately one-fifth of the classification scales, the coordinators indicated that they had difficulty in placing the student into a single category. But in only two instances was a coordinator absolutely unable to place a student into a single category. In one instance, the coordinator could not decide whether the behavior of an outstanding elementary student teacher could best be described as understanding, acceptant, and friendly, or whether her behavior could best be described as stimulating, imaginative, and idea-centered. In the second instance, the coordinator simply stated that the student's behavior did not fit any of the four categories.

Summary

The purpose of this chapter was to present and analyze the data collected in this study. In light of these data and their interpretation, the tenability of each of the hypotheses was tested.

In testing hypothesis 1, it was found that the values of the women student teachers who demonstrated different patterns of teacher behavior varied more than should be expected by chance. However, when Fisher's t test was employed to test for specific differences in values, only one of the differences was found to be significant. The women who were judged to have demonstrated an understanding--acceptant--friendly pattern of teacher behavior scored

significantly higher on the social scale of the Study of Values test than the women who were judged to have demonstrated a systematic-- businesslike-- achievement-oriented pattern of behavior.

The findings failed to support hypothesis 2. The values of the men who demonstrated different patterns of teacher behavior did not vary more than should be expected by chance.

The findings also failed to support hypotheses 3 and 4. The values of the elementary women and the secondary women did not differ more than should be expected due to chance. And, likewise, the values of the elementary men and the secondary men did not differ more than should be expected due to chance variation.

In testing hypothesis 5, a total of sixty significant differences in values were found among eight groups of women who did student teaching in eight selected teaching fields. The teaching fields selected were the secondary and all-level fields in which a minimum of ten women had been placed for their student teaching experience.

In testing hypothesis 6, twenty-five significant differences in values were found among six groups of men who did student teaching in six selected teaching fields. The teaching fields selected were the secondary and all-level fields in which at least ten men had been placed for their student teaching experience.

In testing hypothesis 7, significant differences in values were found among the men student teachers and the women student teachers. The men scored significantly higher on the theoretical, economic, and political scales of the Study of Values, whereas the women scored significantly higher on the aesthetic, social, and religious values.

A detailed summary of the entire study is presented in Chapter V. The conclusions and recommendations of the study are also included in Chapter V.

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CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study concerned the differences in relationships between major teaching behaving styles and dominant personality interests expressed as values.

The purposes of the study were

1. To determine if significantly different values were held by four groups of women student teachers who demonstrated different patterns of teacher behavior.
2. To determine if significantly different values were held by four groups of men student teachers who demonstrated different patterns of teacher behavior.
3. To determine if significantly different values were held by elementary women student teachers and secondary women student teachers.
4. To determine if significantly different values were held by elementary men student teachers and secondary men student teachers.
5. To determine if significantly different values were held by women who did student teaching in eight selected teaching fields.

6. To determine if significantly different values were held by men who did student teaching in six selected teaching fields.

7. To determine if significantly different values were held by men and women student teachers.

Two instruments were used to secure the information for this study. The value-measuring instrument was the Allport-Vernon-Lindzey Study of Values. A classification scale which was adapted by the researcher (Appendix) was used by the university coordinators to indicate the major pattern of teacher behavior demonstrated by the student teacher.

The Study of Values was administered to 520 students at North Texas State University prior to their student teaching experience in the spring semester of 1966. The classification scales used by the university coordinators in appraising each student's major pattern of teacher behavior were collected at the end of each student teaching period.

In testing each of the hypotheses of this study, an analysis of variance technique was employed to determine if the values of the various groups of student teachers differed more than should be expected by chance. When the analysis of variance technique indicated a significant difference in values, Fisher's t test was used to determine which of the values differed significantly.

Hypothesis 1 stated that there would be a significant difference in the values held by four groups of women student teachers who were judged to have demonstrated different patterns of teacher behavior. The patterns of teacher behavior were as follows: (1) understanding, acceptant, friendly behavior; (2) systematic, businesslike, achievement-oriented behavior; (3) stimulating, imaginative, idea-centered behavior; and (4) unsatisfactory behavior. The group composed of the women who were judged to have demonstrated an unsatisfactory pattern of teacher behavior had to be eliminated from the statistical comparisons because the number in this group (N=11) was not large enough to be treated by the generalized analysis of variance technique.

In testing hypothesis 1, it was found that the values of the women who demonstrated different patterns of teacher behavior differed more than should be expected by chance. Therefore, hypothesis 1 was accepted. However, when Fisher's t test was used to determine which of the values were significantly different, only one significant difference was found. The women who were judged to have demonstrated an understanding -- acceptant -- friendly pattern of teacher behavior scored significantly higher on the social scale of the Study of Values than the women who were judged to have demonstrated a systematic -- businesslike -- achievement-oriented pattern of behavior. This finding supports the

part of sub-hypothesis 1a which states that the women judged to be understanding, acceptant, and friendly would score significantly higher on the social value than the women judged to be systematic, businesslike, and achievement-oriented. Of the eighteen sub-hypotheses tested, this was the only one which was significant at the .05 level of significance. However, in twelve of the eighteen sub-hypotheses tested, the difference in values was in the direction which had been hypothesized.

Hypothesis 2 stated that there would be a significant difference in the values held by four groups of men student teachers who were judged to have demonstrated different patterns of teacher behavior. The patterns of teacher behavior were (1) understanding, acceptant, friendly behavior; (2) systematic, businesslike, achievement-oriented behavior; (3) stimulating, imaginative, idea-centered behavior; and (4) unsatisfactory behavior. Once again, the unsatisfactory group had to be eliminated from the statistical comparisons due to the fact that the N for this group (N=6) was not large enough to be treated by the analysis of variance technique.

In testing hypothesis 2, it was found that the values of the men who were judged to have demonstrated different patterns of teacher behavior did not vary more than should be expected due to chance variation. Hypothesis 2 was

therefore rejected. Although none of the eighteen sub-hypotheses relating to hypothesis 2 were accepted, thirteen of the eighteen differences in values were in the direction which had been hypothesized in the sub-hypotheses.

Hypothesis 3 stated that there would be a significant difference in values between the elementary women student teachers and the secondary women student teachers. When this hypothesis was tested, it was found that the mean score values of the two groups did not differ significantly. Hypothesis 3, therefore, was rejected. Although none of the differences in values were considered to be significant, each of the differences was in the direction which had been hypothesized in the sub-hypotheses relating to hypothesis 3. The elementary women scored higher on the social, aesthetic, and religious scales of the Study of Values, whereas the secondary women scored higher on the economic, political, and theoretical scales.

Hypothesis 4 stated that there would be a significant difference in values between the elementary men student teachers and the secondary men student teachers. The evidence obtained in the study failed to support this hypothesis, and therefore, hypothesis 4 was rejected. None of the sub-hypotheses relating to this hypothesis were accepted, and only two of the six differences in values were in the direction which had been hypothesized.

According to hypothesis 5, there would be no significant differences in values between the women who did student teaching in eight selected teaching fields. The teaching fields selected were the secondary and all-level fields in which a minimum of ten women were placed for their student teaching experience.

In testing this hypothesis, it was found that the values of the eight groups of women varied more than should be expected by chance. Therefore, hypothesis 5, which was stated as a null hypothesis, was rejected, and Fisher's t test was used to determine which of the values varied significantly. Of the 168 t ratios used in testing the difference between each of the pairs of mean score values, sixty were found to be significant.

An examination of the data relevant to hypothesis 5 reveals the following information:

1. The women who did student teaching in the field of art scored relatively high on the aesthetic value and relatively low on the social value.
2. The women who did student teaching in the field of business scored relatively high on the economic value and relatively low on the aesthetic value.
3. The women who did student teaching in the field of English scored relatively high on the political value and relatively low on the social value.

4. The women who did student teaching in the field of foreign language scored relatively high on the theoretical value and relatively low on the economic and political values.

5. The women who did student teaching in the field of home economics scored relatively high on the economic value and relatively low on the aesthetic value.

6. The women who did student teaching in the field of mathematics scored relatively high on the theoretical and social values and relatively low on the political value.

7. The women who did student teaching in the field of music scored relatively high on the aesthetic, social, and religious values and relatively low on the theoretical, economic, and political values.

8. The women who did student teaching in the field of social science scored relatively high on the political value and relatively low on the religious value.

Hypothesis 6 stated that there would be no significant differences in values between the men who did student teaching in six selected teaching fields. The teaching fields selected were the secondary and all-level fields in which a minimum of ten men were placed for their student teaching experience.

In testing this hypothesis, it was found that the values of the six groups of men varied more than should be expected by chance. Therefore, hypothesis 6, which was stated as a null hypothesis, was rejected, and Fisher's t test was used to determine which of the values varied significantly. Of

the ninety t ratios used in testing the difference between each of the pairs of mean score values, twenty-five were found to be significant.

A study of the data used in testing hypothesis 6 reveals the following information:

1. The men who did student teaching in the fields of biology and chemistry scored relatively high on the theoretical value and relatively low on the social value.

2. The men who did student teaching in the field of English scored relatively high on the aesthetic value and relatively low on the theoretical, economic, and political values.

3. The men who did student teaching in the field of industrial arts scored relatively high on the economic value and relatively low on the religious value.

4. The men who did student teaching in the fields of mathematics and physics scored relatively high on the religious value and relatively low on the aesthetic value.

5. The men who did student teaching in the field of physical education scored relatively high on the social and political values and relatively low on the economic value.

6. The men who did student teaching in the field of social science scored relatively high on the social and political values and relatively low on the theoretical value.

Hypothesis 7 stated that there would be a significant difference in the mean score values between the men and

women student teachers. In testing this hypothesis, it was found that the mean score values of the men and women differed more than should be expected due to chance. Therefore, hypothesis 7 was accepted, and Fisher's t test was used to determine which of the values differed significantly. The evidence obtained indicated that the men scored significantly higher than the women on the theoretical, economic, and political values, whereas the women scored significantly higher than the men on the aesthetic, social, and religious values.

Conclusions

The findings of this study made it possible to reach the following conclusions:

1. Generally, the values held by student teachers do not determine their classroom behavior.
2. The Study of Values used in a manner similar to the one in this study will not validly predict any one of the three major patterns of teacher behavior investigated in this study.
3. The values held by elementary student teachers are similar to those held by secondary student teachers.
4. The values held by student teachers are most likely to correspond to those values which are generally regarded to be associated with the students' subject matter field.

Recommendations

As a result of this study, the following recommendations are made:

1. It is recommended that those persons responsible for admitting students to programs of teacher education use the Study of Values for counseling purposes. Although the test appears to have some rather serious shortcomings when used as a research instrument, there is little doubt that the Study of Values can be profitably used in indicating an individual's dominant personality interests.

2. An attempt should be made to develop a normative scale for use in scoring the Study of Values.

3. An attempt should be made to develop an effective instrument for use in appraising the classroom behaviors of teachers.

4. A follow-up study should be made of the classroom behavior of the subjects involved in this research. Such a study should attempt to determine possible changes in the classroom behaviors of those subjects who have become teachers.

5. A follow-up study should be made within three to five years of the values held by subjects who were involved in this research. Such a study should attempt to determine possible changes in the values held by the subjects.

APPENDIX

University Coordinator's Appraisal of the Major
Pattern of Teacher Behavior Demonstrated by
the Student Teacher

Name of Student Teacher _____

Instructions: Please indicate by means of a check mark which of the following major patterns of teacher behavior was most frequently demonstrated by the student named above. It is expected that many student teachers will fit into two or more of these categories, but indicate, if possible, which one of these categories best describes the student teacher's behavior. It is always difficult, of course, to place a student teacher into a single category, but by doing so you are not saying that the student is this and this only. This information is for a research study and it will be used for no other purpose. When this study is completed and is written up, the researcher will emphasize the fact that the student teachers were classified only according to their major pattern of behavior. By placing the student into a single category you are merely indicating that, in your opinion, the adjectives used in this category most closely approximate the student's teaching behavior.

Note: Additional information pertaining to this appraisal is given on the next page.

_____ This student teacher most frequently demonstrated a pattern of teacher behavior which can best be described as systematic, businesslike, and achievement-oriented.

_____ This student teacher most frequently demonstrated a pattern of teacher behavior which can best be described as unsatisfactory.

_____ This student teacher most frequently demonstrated a pattern of teacher behavior which can best be described as understanding, acceptant, and friendly.

_____ This student teacher most frequently demonstrated a pattern of teacher behavior which can best be described as stimulating, imaginative, and idea-centered.

Was it especially difficult to classify this particular student teacher? Yes _____ No _____

Comments: _____

Additional Information Pertaining to the University
Coordinator's Appraisal of Teacher Behaviors

If you are inclined to designate the student's teaching behavior as understanding, acceptant, and friendly, the following adjectives may be helpful in your evaluation:

| | | |
|-----------|-----------|-------------|
| agreeable | cordial | sympathetic |
| amicable | approving | confiding |

If you are inclined to designate the student's teaching behavior as systematic, businesslike, and achievement-oriented, the following adjectives may be helpful in your evaluation:

| | | |
|-----------|-------------|------------|
| practical | efficient | methodical |
| orderly | utilitarian | thorough |

If you are inclined to designate the student's teaching behavior as stimulating, imaginative, and idea-centered, the following adjectives may be helpful in your evaluation:

| | | |
|-------------|----------|-----------|
| provocative | creative | inventive |
| inspiring | original | pungent |

If you are inclined to designate the student's teaching behavior as unsatisfactory, the following adjectives may be helpful in your evaluation:

| | | |
|--------------|-------------|----------------|
| disapproving | inefficient | uninspiring |
| unfriendly | unconcerned | unenthusiastic |
| lazy | sarcastic | contrary |
| dishonest | | |

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