EFFECTS OF PRACTICING SELF-SELECTED TEACHING SKILLS
ON MEASURES OF PERSONALITY AND TEACHING BEHAVIOR
OF ELEMENTARY EDUCATION MAJORS

DISSERTATION

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The problem of this study was to determine the effects which the practicing of self-selected teaching skills by elementary education majors had on measures of personality and of teaching behavior. Personality measures were limited to self-confidence; attitudes toward self, children, and others; identification with the teaching role; and identification with the teaching profession. The teaching behavior measures were coded interaction episodes between a teacher trainee and four pupils in a microteaching setting.

Ninety-three senior elementary education majors at Concordia Teachers College, Seward, Nebraska, were divided into four treatment groups by a drawing process to achieve randomization. Groups E-1 (N=23) and E-2 (N=23) participated in a minimum of twenty hours of instruction in and practicing of self-selected teaching skills as presented in *The Florida B2 Modules for Individualizing Teacher Education Materials* as well as the control treatment. Groups
C-1 (N=22) and C-2 (N=25) participated only in the control treatment which consisted of classes, independent study, and practicum-observation experiences.

Selected subscales from *The Bown Self-Report Inventory*, *The Peck-Veldman One-Word Sentence Completion Test*, and *The Veldman Directed Imagination Test* provided personality data. Teaching behavior data were secured from seven-minute videotapes of lessons taught to groups of four elementary children. A modification of the thirteen category *Fuller Affective Interaction Record* was used to code the lessons.

The Solomon Four-Group Design allowed for determining the effects of both the testing and the treatment conditions. The personality tests and seven-minute lessons were administered as pre-tests to the subjects in Groups E-1 and C-1 and all subjects received the same personality tests and taught seven-minute lessons as post-tests.

Using the testing and the treatment conditions as independent variables and the post-test scores of the four groups as the criterion, a two-way analysis of variance was computed for the personality and teaching behavior measures. Next, a one-way analysis of covariance was computed between the E-1 and C-1 group measures by using the pre-test scores as the covariant and the post-test scores as the criterion.

The findings were: (1) the experimental treatment groups achieved significantly higher scores (.05 level) than the
control treatment groups on the measures of identification with the teaching role and identification with the teaching profession; (2) there were no significant differences among the four groups on measures of self-confidence or attitudes toward self, children, and others; (3) there were no significant differences among the four groups on any of the measures of teacher or pupil behavior; (4) there was no interaction between the testing and the treatment conditions.

It was concluded that training experiences of short duration (e.g., eight weeks or less) (1) can be expected to positively affect specific, narrowly defined personality traits such as identification with the teaching role and identification with the teaching profession, (2) cannot be expected to affect broadly defined, global personality traits such as self-confidence or attitudes toward self, children, and others, and (3) cannot be expected to affect the classroom interaction of teachers and pupils.

Recommendations included: (1) continued utilization of self-selected teaching skills as options in individualized programs of teacher education, (2) further research to determine the long-term effects of the treatments on the subjects, and (3) further research to determine the effects of other types of experiences on measures of personality and teaching behavior.
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CHAPTER I

INTRODUCTION

Many college graduates majoring in elementary education are inadequately prepared to begin a career in teaching (2). They lack professional self-confidence and have not mastered skills which many educators agree competent teachers use effectively while engaging in the teaching process (2, 4). Symonds (13, p. 81) suggests that the feelings of inadequacy, insecurity, and inferiority of teachers cause aggressive responses from pupils and result in ineffective teaching.

On the other hand, in a review of numerous studies concerning teacher effectiveness, Hamachek (6, p. 197) concluded that teachers who see themselves as adequate, self-reliant, and able, also view pupils in this way. By viewing pupils positively, they serve as models of positive self-attitudes and behavior which pupils assume and reflect. If these conclusions are true, it follows that one way to improve teacher effectiveness and teaching behavior is to improve the self-perceptions of teachers.

In recent years, a number of training programs have been designed to develop teaching skills (7). However,
little evidence can be found that elementary education majors participating in these programs are any more skillful than those not participating. Furthermore, little is known about the effects of such training upon the professional self-confidence of teacher trainees participating in these programs.

In his concluding remarks concerning the self-concept and academic achievement, Hamachek stated, "Many different experiences ultimately influence how an individual feels about himself" (6, p. 219). Since the self-concepts of teacher trainees are developed over a period of years and are based on repeated perceptions of success and failure, it appears reasonable that short-term training programs can do little to modify the deep-seated, global attitudes and perceptions of self and others. However, it may be possible, in a relatively short period of time, to change the self-perceptions of specific abilities and skills as well as the overt behavior in these areas.

Rogers (10) suggests that self-selection, individualization, and personalization of classroom educational experiences is an appropriate way of helping people see themselves more positively. The application of this suggestion to the selection and the practicing of teaching skills by teacher trainees was tested in this study.
Statement of the Problem

The problem of this study was to determine the effects which the practicing of self-selected teaching skills by elementary education majors had on measures of personality characteristics dealing with perceptions of specific skills and abilities and on measures of teacher-pupil interaction in the microteaching situation. These effects on elementary education majors who were in their professional semester of training at a church-related teachers college were of particular concern.

Purposes of the Study

The purposes of the study were: (1) to determine whether the practicing of self-selected teaching skills produces significant changes in attitudes, feelings, and perceptions of abilities and skills on any of three measures of personality: The Bown Self-Report Inventory (SRI), The Peck-Veldman One-Word Sentence Completion Test (OWSC), and The Veldman Directed Imagination Test (DI); (2) to determine whether the practicing of self-selected teaching skills produces significant changes in teaching behavior as measured by a modification of The Fuller Affective Interaction Record (FAIR); and (3) to evaluate the effectiveness of, and make recommendations for, the practicing of self-selected teaching skills in an individualized-personalized program of teacher education.
Hypotheses

To accomplish the purposes of the study, the following hypotheses were tested:

1. The experimental treatment groups will have significantly higher scores than the control treatment groups on the following post-test personality measures: self-confidence; attitude toward self, children, and others; identification with the teaching role; and identification with the teaching profession.

2. The experimental treatment groups will have significantly higher scores of indirect teacher behavior and also significantly lower scores of direct teacher behavior than the control treatment groups on the post-test measures on the FAIR.

3. The experimental treatment groups will have significantly higher scores of desirable pupil behavior and also significantly lower scores of less desirable pupil behavior and of undesirable pupil behavior than the control treatment groups on the post-test measures on the FAIR.

4. The experimental treatment groups will have significantly lower teacher behavior scores and significantly higher pupil behavior scores than the control treatment groups on the post-test measures on the FAIR.
Background and Significance

Research

When analyzing the results of their research, Combs and Snygg emphasize that the personal frame of reference (phenomenological psychology) is a better predictor of individual behavior than any other approach they have used. They concluded, "What a person thinks and how he behaves are largely determined by the concepts he holds about himself and his abilities" (3, p. 122). Hamachek (6) also cited many studies which support this point of view. Passmore (8) reports an additional study which is of particular interest because it deals with the self-concepts of student teachers. She found that, among other things, student teachers who were rated as successful by their classroom supervising teachers and college supervisors viewed themselves positively.

A number of studies have been reported which sought to determine the effects of various approaches to teacher training. Pope (9) found that an independent study approach produced greater gains in cognitive achievement in a junior level language arts methods course than did the traditional approach. However, no significant differences were found between the two approaches on measures of attitude or teaching performance.
Werking (14) investigated the effects of studying a packaged program which promoted the use of systematic instructional decision-making in the areas of objectives, evaluation, and the selection of appropriate teaching strategies. He also studied the effects of practicing the principles advocated in this program. One group of students in a science methods course studied the program and practiced the principles by teaching peers. Another group merely studied the program materials and a third group, which neither studied the program nor taught peers, served as a control. When these three groups of students taught a science lesson to elementary pupils, there were no significant differences among any of the groups on the criterion measures of pupil achievement and attitude toward the instruction or on observer rating measures.

Rogers and Davis (11) reported a study in which student teachers participated in seminars which were designed to develop their ability to ask higher level questions. The techniques used to develop this ability were video and audio feedback of teaching behavior with peers and the role playing of alternate questioning strategies. When analyzing the questioning behavior of these student teachers as they taught a four-day unit to elementary pupils, it was found that the student teachers who received this training asked a significantly greater number of higher
level questions than did a control group which did not receive this training. However, no significant differences were found in the achievement of the pupils taught by the two groups of student teachers.

Steinbach and Butts (12) examined the impact of feedback and compared practice with children or with peers in the attainment of specific teaching competencies in a group of students in a science methods course. Those students who practiced with children developed more adequate lesson pacing skills and were more indirect than those who taught peers. Those students who received feedback were able to organize lessons more logically than were those who did not receive feedback. Feedback was also found to contribute significantly to a student's positive attitude toward teaching.

Fuller and others (5), in a five-year study of the effects of various types of feedback on teacher trainee personality and teaching behavior, found that teacher trainees who received feedback gave evidence of more self-confidence, classroom ease, and positive attitudes toward observation procedures. However, the type of feedback (individual counseling, viewing filmed teaching behavior, and being placed in a school situation for student teaching which was tailored to the individual needs of the
teacher trainee) did not seem to be significantly related to these changes.

When looking at these studies as a whole, it is concluded that self-concept is related to teaching behavior. However, the relationship between various practices in teacher education and the development and modification of the teacher trainee's self-concept is not established, and, in most cases, has not been a matter of concern. Additional knowledge of how practices in teacher education affect and modify the teacher trainee's self-perceptions is needed to explain why so many graduates from teacher education view themselves as inferior and incapable after four years of college training (2).

**Institutional Background**

Since 1971, Concordia Teachers College, Seward, Nebraska, has been attempting to individualize and personalize elementary teacher education. Part of this process takes place during the professional semester of the senior year. In addition to student teaching for one-half of the semester, the remainder of the semester is devoted to special self-selected experiences and training in teaching skills. It is hoped that trainees who experience such a program of preparation will be more capable of individualizing and personalizing the educational experiences they
direct in the elementary school. There is, at present, little evidence that such a program is successful in achieving this goal.

The effects of such a self-selected program on the personality and teaching behavior of the teacher trainees are also unknown. Such knowledge would be useful in assessing the merits of this approach to teacher education. The study herein described was an attempt to provide evidence either for or against self-selection and special training in teaching skills where little research evidence existed as a criterion for judgment. Such knowledge is also intended to provide data which may aid teacher educators in making decisions about more valuable experiences which can be provided for teacher trainees.

Definition of Terms

For purposes of this study the following definitions were formulated:

1. The professional semester is defined as that semester in the undergraduate program of elementary education majors which is devoted to student teaching and experiences related specifically to learning how to teach in the elementary school. Registration for the professional semester was restricted to senior level students in this study.
2. **Teaching skills** are defined as those abilities of teachers which facilitate pupil learning such as promoting appropriate language patterns, designing learning activities, increasing pupil participation, managing a classroom, questioning, probing, evaluating, diagnosing, and so on, as identified and developed in *The Florida B2 Modules for Individualizing Teacher Education Materials* (Florida Modules), the titles of which are listed in Appendix E.

3. **Experimental treatment** is defined as instructor-advisor guided but teacher-trainee selected study of and practice in teaching skills including a variety of appropriate experiences such as meeting in groups to discuss and observe demonstrations of the teaching skills presented in the Florida Modules, microteaching of peers and elementary age pupils, and receiving feedback about the level of proficiency reached in the skills. These experiences are more precisely described in Chapter III. The experimental treatment period began during the second week of the course, *The Teacher Laboratory*, and extended through the entire course until the beginning of post-testing, a period of five weeks.

4. **Microteaching** can have numerous definitions. Allen and Clark state, "Microteaching is most succinctly described as a teaching situation which is scaled down in terms of time and numbers of students" (1, p. 75). In
this study, microteaching is defined as a real teaching situation, not a simulated experience, which extends for a period of from five to ten minutes and includes teaching a single concept to from four to ten pupils. It also includes practicing at least one teaching skill as defined above while teaching the concept.

5. **Personality** is defined as those feelings, attitudes, and perceptions concerning the self and phenomenal world as are measured by *The Bown Self-Report Inventory* (SRI), *The Peck-Veldman One-Word Sentence Completion Test* (OWSC), and *The Veldman Directed Imagination Test* (DI).

6. **Self-confidence** is defined as the personality traits measured by the SRI Hope; the OWSC Independence, Self-Reliance, Confidence re Classroom Discipline, and Perception of Own Ability; and the DI Self-Ability subscales combined with equal weighting.

7. **Attitude toward self** is defined as the personality traits measured by the SRI Self subscale.

8. **Attitude toward children** is defined as the personality traits measured by the SRI Children and the OWSC Implied Teacher-Child Interaction subscales combined with equal weighting.

9. **Attitude toward others** is defined as the personality traits measured by the SRI Others subscale.
10. **Identification with the teaching role** is defined as the personality traits measured by the OWSC Confidence Classroom Discipline and the DI Teaching Role subscales combined with equal weighting.

11. **Identification with the teaching profession** is defined as the personality traits measured by the OWSC Attitude Toward the Teaching Profession and the DI Educational Content subscales combined with equal weighting.

12. **General mental health** is defined as the personality traits measured by the SRI Total, the OWSC General Mental Health, and the DI General Adjustment subscales combined with equal weighting.

13. **Teacher behavior** is defined as categories F--Accepts Feelings, N--Encourages, I--Accepts Ideas, Q--Asks Questions, D--Gives Directions, L--Lectures, and C--Criticizes or Corrects on the Fuller Affective Interaction Record (FAIR). These categories are further defined in Appendix D.

14. **Indirect teacher behavior** is defined as categories F--Accepts Feelings, N--Encourages, I--Accepts Ideas, and Q--Asks Questions on the FAIR.

15. **Direct teacher behavior** is defined as categories D--Gives Directions, L--Lectures, and C--Criticizes or Corrects on the FAIR.
16. Pupil behavior is defined as categories V--Pupil Volunteers, E--Enthusiastic Response, R--Routine Response, W--Silent Work, and H--Hostile or Bored Behavior on the FAIR. These categories are further defined in Appendix D.

17. Desirable pupil behavior is defined as categories V--Pupil Volunteers, E--Enthusiastic Response, and W--Silent Work on the FAIR.

18. Less desirable pupil behavior is defined as category R--Routine Response on the FAIR.

19. Undesirable pupil behavior is defined as category H--Hostile or Bored Behavior on the FAIR.

Limitations

Time was a limitation in this study. Only eight weeks were available for measurement and treatment. Additional time would have allowed for more extensive sampling of teaching behavior than the seven-minute pre-test and post-test lessons which were taught and recorded on videotape for later analysis. In order to allow five weeks for the treatments, it was arbitrarily decided to limit measurement to the first and the seventh and eighth weeks of the course.

In this study, measurement and analysis of the effects of practicing teaching skills on personality were limited
to the following variables as defined and measured by the three personality tests.

**The Bown Self-Report Inventory (SRI)**

1. Self
2. Others
3. Children
4. Hope
5. Total

**The Peck-Veldman One-Word Sentence Completion Test (OWSC)**

6. Independence, Self-Reliance
7. Confidence re Classroom Discipline
15. Implied Teacher-Child Interaction
17. Attitude Toward Teaching Profession
21. Perception of Own Ability
25. General Mental Health

**The Veldman Directed Imagination Test (DI)**

7. Teaching Role
8. Self-Ability
11. Educational Content
15. General Adjustment

The population in this study was limited to those students who were registered for the course, The Teacher Laboratory, during the first half of the second semester of the 1972-1973 academic year at Concordia Teachers College, Seward, Nebraska. Conclusions and generalizations are limited to this population.

**Assumptions**

It was assumed that the subjects selected for this study responded to the personality measures honestly,
giving the feelings, attitudes, and perceptions they actually held.

It was assumed that the videotaped pre-test and post-test lessons taught to pupils revealed teaching behavior and responses typical of each subject.

It was assumed that the instruments selected for use in this study were valid and reliable for their intended use, i.e., measurement of personality and teaching behavior.

It was assumed that the personality traits (self-confidence; attitudes toward self, children, and others; identification with the teaching role; identification with the teaching profession; and general mental health), the teacher behaviors (indirect and direct), and the pupil behaviors (desirable, less desirable, and undesirable) which were selected for measurement and experimental manipulation are related to effective and ineffective teaching.

It was assumed that becoming an effective teacher was a goal common to the subjects in this study.

Chapter Summary

In this chapter, studies are reviewed which indicate that many teacher education graduates are not adequately prepared to begin a career in teaching. Others indicate that the self-concept appears to be a key in understanding and predicting individual behavior. The problem was to
determine whether practicing self-selected teaching skills has any effect on measures of professional self-confidence and on measures of teaching behavior. Specific purposes, hypotheses, limitations, and assumptions of the study are also presented. In addition, the terms which are unique to the study are briefly defined.
CHAPTER BIBLIOGRAPHY


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CHAPTER II

REVIEW OF RELATED LITERATURE

In this chapter various research studies and other pertinent literature related to effective teachers and effective teaching are presented. No attempt was made to be exhaustive in the review although many publications of the past ten years are included. The purpose of this review is to show the current "state of the art" and to provide a basis for the theoretical formulation tested in this study. Studies and statements describing the good teacher are presented first. Following this are studies dealing with the effects which the teacher's personality and behavior have on pupils. Also included are studies which show the relationship of the teacher's personality to his teaching behavior. Those studies which deal with attempts to modify the teacher's personality or teaching behavior are presented next. An explication of the theoretical position of this study based on a synthesis of previous research and current thinking concludes the chapter.
The Effective Teacher

If the purpose of a search in the literature is a definite, all-inclusive listing of characteristics of the good or effective teacher, this purpose cannot be accomplished. Rosenshine and Furst begin their review of research on teacher performance criteria by stating, "This review is an admission that we know very little about the relationship between classroom behavior and student gains" (56, p. 37). Critics of the schools are numerous and vocal. Not all of them merely present the problems of the inadequate performance of teachers but also suggest ways of solving the dilemma. One such solution is performance criteria in teacher certification. Burkhart puts this suggestion in context when he states,

An invisible revolution has been occurring for almost a decade now in American schools. The plan of the leaders is to change the school system by changing teacher certification requirements. The conviction of those advocating performance evaluation as a new basis for certification is that a cultural revolution in the schools is needed, and if one doesn't occur we may be facing a revolution in the streets. . . . schools aren't geared for real problems. The school's job is to equip people to face real problems (7, p. 5).

This serious criticism of today's schools may also be construed as criticism of today's teachers.

Zahorik (78) attempted to determine how teachers perceive the good or ideal teacher. His inquiry was limited
to what teachers believe the ideal teacher does in soliciting pupil activity, reacting to pupil comments, and how he sees the ideal teaching environment. Fictitious four-page transcripts written by seventy-two elementary teachers as they described their ideal teaching situation were analyzed. Most of the teachers described their ideal situation as very similar to what is found in the schools today. Ninety-two percent described typical content being developed in a discussion setting involving the total class with the teachers asking low level cognitive, convergent, and procedural questions. They frequently issue a single phrase of praise and positive judgment while shaping the children's responses to arrive at a predetermined objective. In summary, these teachers lacked excitement and newness.

Another negative description is presented by Haberman (25). Reading gain scores, the ratio of direct to indirect teacher statements in the verbal interaction of lessons, and the subjective judgments of two observers were used as criterion measures. Various factors thought to discriminate between successful and unsuccessful teachers were examined. In a small sample of twenty-eight intern teachers it was found that grades, positive attitudes toward children, adequate communication skills, cooperative planning with children, utilization of the
background of children in planning, identifying the purposes of the lesson clearly, and motivating the children did not distinguish the successful interns from the unsuccessful interns. It was found that five additional factors did distinguish the successful from the unsuccessful. The successful interns had a belief that the potential of children was unlimited, displayed enthusiasm for some subject matter, had the ability to organize, had the ability to set appropriate standards, and displayed the ability to really listen to people. Haberman noted that several of the behaviors which did not distinguish the two types of teachers were absent in the behaviors of both types of teachers.

Joyce and Hodges believe that the effective teacher is the teacher who has mastered a large number of skills and has developed a flexible style. They state:

A teacher who cannot help children discover principles is a cripple of sorts; for the discovery method, as far as we can speculate, is uniquely useful for particular educational purposes. On the other hand, a teacher who could employ only dialectical or discovery methods would be equally crippled, for (again, as nearly as we can tell) carefully sequenced instruction is also appropriate for particular educational purposes.

Hence, a teacher who can purposefully exhibit a wide range of teaching styles is potentially able to accomplish more than a teacher whose repertoire is relatively limited (35, p. 409).

When Crane (13) asked 299 education students in England to submit statements descriptive of themselves, he
was able to develop a 38-item "Acceptance of Self Scale" and a 27-item "Acceptance of Others Scale." Later 349 teachers divided into Well-Adjusted (never considered leaving the profession), Less-than-Well-Adjusted (seriously considered leaving the profession but did not do so), and the Unadjusted (resigned their positions) groups completed the two scales. As expected, the Well-Adjusted scored highest, the Less-than-Well-Adjusted scored lower, and the Unadjusted scored lowest on both scales. These differences were found to be significant at the .01 level of confidence.

Sprinthall, Whiteley, and Mosher (68) tested the notion that cognitive flexibility is related to effective teaching. Cognitive flexibility was defined as the ability to think and act simultaneously and appropriately in a given situation. Cognitive rigidity was defined as intolerance for ambiguity, excessive need for structure, and difficulty in adaptation to a situation. Teachers completed The Rorschach and a specially designed Visual Impression Test. Ratings were based on performance while teaching a lesson. Criterion areas measured by the rating scale based on operational definitions of cognitive flexibility and rigidity were planning behavior under stress, responsiveness to the class, and ability to communicate. Using rank order correlations, it was determined that the
effective teachers did, indeed, exhibit greater cognitive flexibility.

Attempts have been made to determine whether certain types of children perform better when placed in classrooms where teaching style is matched to learning style. Rubin (59) used forty-five teachers who had expressed preferences for a highly structured teaching style and forty-five teachers who preferred an unstructured style of teaching. They were provided with teacher's guides containing highly structured suggestions for six social studies units appropriate for the grade level they taught. Highly structured teachers were told to follow the suggestions in the guides carefully while the unstructured teachers were told to develop the unit they were to teach in any way they felt appropriate. Using the results of the Sarason Anxiety Test and achievement scores of the children in the ninety classrooms as criterion measures, it was found that: (1) spontaneous planning did not raise the anxiety level of anxiety-prone pupils; (2) absence of reasonable structure imposes emotional hardship on some teachers without a corresponding reduction in learning by the pupils; and (3) the interests of teachers and pupils differ sharply. Teachers were found to value cognitive success and achievement while pupils wanted emotional success.
In summarizing the available research in 1969, Hama-
chek found that effective teachers can be distinguished
from poor teachers in four areas: (1) personality, (2) in-
structional procedures, (3) perceptions of self, and (4)
perceptions of others. He summarizes the research by
stating:

A good teacher is a good person. Simple and true.
A good teacher rather likes life, is reasonably at
peace with himself, has a sense of humor, and enjoys
other people. If I interpret the research correctly,
what it says is that there is no one best better-than-
all-others type of teacher. Nonetheless there are
clearly distinguishable "good" and "poor" teachers.
Among other things, a good teacher is good because he
does not seem to be dominated by a narcissistic self
which demands a spotlight, or a neurotic need for
power and authority, or a host of anxieties and trem-
blings which reduce him from the master of his class
to its mechanic.

The good teacher is flexible. By far the single
most repeated adjective used to describe good teachers
is "flexibility." Either implicitly or explicitly
(most often the latter), this characteristic emerges
time and again over all others when good teaching is
discussed in the research. In other words, the good
teacher does not seem to be overwhelmed by a single
point of view or approach to the point of intellectual
myopia. A good teacher knows that he cannot be just
one sort of person and use just one kind of approach
if he intends to meet the multiple needs of his stu-
dents. Good teachers are, in a sense, "total" teach-
ers. That is, they seem able to be what they have to
be to meet the demands of the moment. They seem able
to move with the shifting tides of their own needs,
the student's, and do what has to be done to handle
the situation. A total teacher can be firm when
necessary (say "no" and mean it) or permissive (say
"why not try it your way?" and mean that, too) when
appropriate. It depends on many things, and good
teachers seem to know the difference (26, p. 343).
As stated initially in this section of the review, no specific, all-inclusive definition of the effective teacher is available. However, Hamachek's summary above does provide a broad and general definition which emphasizes the personal qualities of the effective teacher. These personal qualities are an important part of the theoretical basis for the present study.

Effects of Teachers on Pupils

Children spend six or more hours per day at school and during this time, teachers are affecting the behavior of the pupils. Some of these effects have been the attention of previous research efforts. Reports of this research which are relevant for the present study are subsequently reviewed.

It was a major premise of this study that attitudes and perceptions affect behavior. Yee (76) sought to determine the attitudes of teachers toward pupils and of pupils toward teachers in middle-class and lower-class schools in Texas and California. There were 212 teachers and 5648 pupils in 50 schools who participated. The teachers completed The Minnesota Teacher Attitude Inventory (MTAI) and a special semantic differential. The fourth, fifth, and sixth grade pupils each completed a 100-item inventory titled, About My Teacher developed by Beck. Middle class
teachers and pupils were found to have more positive attitudes than their lower class counterparts. The teachers in lower class schools with nine or more years of experience were found to have significantly more negative attitudes than all other teachers. While the attitudes of both teachers and pupils in middle class schools were becoming more positive from grade four to grade six, those same attitudes were becoming more negative in lower class schools. Yee feels the reason is that teachers in lower class schools negatively influence pupils thus causing more negative attitudes toward self and others while middle class teachers influence their pupils positively.

Zahorik feels that the feedback teachers give pupils is inadequate. He suggests:

The results concerning general feedback usage suggest that teacher-verbal feedback during the interactive classroom situation is a rather rigid behavior. Only a few types of feedback are used with regularity and these types may be less informative than others which are used infrequently. . . . Perhaps if teachers employed wide feedback repertories consisting of elaborate types of praise, direct negatives such as simple reproof-denial, reasons or explanations as to why a comment had or lacked value, and clues or prompts regarding what to do next to improve a response, in addition to simple praise, introducing a new topic and other frequently used types, learners would come to have a better notion of the worth of their responses (77, p. 149).

Feedback is one type of reinforcement. Friedman (22) sought to determine the relationship between the number of times teachers reinforced pupil talk and the number of
times the pupils in grades one, three, five, and seven talked spontaneously. He found that reinforcement by the teacher results in more spontaneous pupil talk.

One area which has received much attention is the effects which teacher questions have on pupil behavior. Using pupil achievement as a criterion for dividing the teachers into high-effect and low-effect groups, Cromack (14) found that high-effect teachers use a greater number of rhetorical questions, more high level questions, and more positive verbal reinforcement than do low-effect teachers. In this study it was also found that high I. Q. pupils performed better when the teacher asked fewer questions and provided fewer verbal reinforcements. Less able children performed better when there was a high frequency of negative reinforcers.

Ryan (60) studied the effects of the levels of questions on pupil achievement in social studies for fifth and sixth graders. Low level questions were found to be effective in developing low level understandings. However, high level questions also developed low level understandings effectively; in addition, they stimulated high level understandings and thinking.

In a survey study using sixth grade mathematics teachers as subjects, Meckes (48) found that mathematics teachers consider their role to be information dispensers. When
questions are asked, they are generally at a low cognitive level. He concluded that the present practice of teachers and the intent of innovative mathematics programs are inconsistent. The mathematics teachers were found to be direct in their approach to teaching, i.e., developing concepts through lecture, giving directions and commands, and criticizing pupils.

In a similar study dealing with reading instruction with below average sixth grade readers, Samph (62) found that indirect teacher behaviors (accepting feelings, encouraging and praising, accepting and using pupil ideas, and questioning) produced significantly greater achievement gains than did direct teacher behaviors. In addition, indirect teacher behaviors were also found to be associated with more positive attitudes in the pupils.

Being direct or indirect is related to the leadership behavior of teachers. Smith and Lutz (66) hypothesized that teachers who are well liked would be considerate leaders while teachers who are highly respected would be perceived as fulfilling the role of initiating structure. Contrary to expectations, the quality of being considerate was not significantly related to being liked. However, being perceived as considerate is related to being respected. Those teachers most liked and most respected were
found to be highest in consideration. As expected, teachers who were perceived high in initiating structure were highly respected. In addition, high scores on the initiating structure scale were negatively related to being liked.

Parker (51) sought to determine the relationship between teacher directiveness and pupil self-directiveness. While there were low correlations among the variables, there was some evidence that an open, indirect classroom climate stimulates more self-directive behavior of pupils and is associated with indirect teacher behavior.

Discipline is a major concern of beginning teachers. Harvey and others (28) sought to determine the effects of teacher beliefs on classroom atmosphere and pupil behavior. Teachers scoring high in resourcefulness were found to have classes which scored high in cooperation, involvement, activity, and achievement. Teachers who scored high in dictatorialness and punitiveness were found to have classes which scored high in concreteness of student responses. The overall conclusion is that teacher and pupil behavior are highly related even though the cause-effect relation is not established by the findings. Similarly, Daley (15) found that teachers who were perceived by students to use more direct influence had a higher frequency of discipline problems.
Joyce, Lamb, and Sibol (36) anticipated that the way in which teachers process information affects their behavior. Abstract thinkers and concrete thinkers were compared as they responded to a three-passage case study. Each passage provided additional information about the case. Abstract thinkers were found to become more definite as more information became available while concrete thinkers became less certain as more information became available.

Teachers presumably are influential in causing pupil thinking. Measel and Mood (47) studied a group of second grade teachers to determine whether teacher verbal behavior affected pupil level of thinking. No significant relationship was found between pupil higher levels of thinking and either direct or indirect teacher behaviors. However, teachers who asked high level questions did elicit higher levels of pupil responses.

Verbal behavior of teachers is overt behavior. Loss (44) who sought to determine the effects of non-verbal behavior of teachers on pupils found that teachers who facilitate self-directed learning are not significantly different from less facilitating teachers with respect to non-verbal behavior. However, she found that locomotion, facial attitude, and body-torso position of teachers and pupils were highly interdependent.
The literature previously reviewed provides some evidence that teachers do affect pupils. These studies are neither free of conflicting findings nor do they establish definite cause-effect relationships. However, it appears to be true that teachers who use more indirect approaches, who are considerate, who ask high level questions, who provide appropriate feedback and reinforcement, and who think in more abstract ways, tend to be found in classrooms where pupils engage in desirable behaviors. The establishment of this tendency is intended to provide additional information for the theoretical basis for the present study.

Relationships Between Teacher Personality And Teaching Behavior

In an article which suggests needed research Hamachek (27) identifies four negative personality styles in teachers: (1) Compulsive--living machines, (2) Paranoid--teachers who are highly suspicious of others, especially children, (3) Hysterical--the shallow, sensationalizing, flighty person, and (4) Impulsive--teachers who engage in unplanned, reckless, arbitrary, and generally unpredictable behavior. He suggests that more attention should be given to teacher personality by stating:

My premise has been that the kind of teacher one is depends on the kind of person one is. We tend to look at the teaching task more in terms of what the teacher
does and too little, perhaps, in terms of who the teacher is. We somehow behave as if the process of teaching was more critical than the person doing the teaching. Most colleges of education are notorious for instructing teacher candidates in ways which suggest that what they do or how they do it is more important than or even separate from who they are (27, p. 322).

Turner (71) attempted to relate teacher characteristics to the problems beginning teachers face. The types of problems were ascertained by interviewing the teachers' supervisors and having their principal complete a questionnaire. The beginning teachers completed the Teacher Characteristics Schedule (TCS) and two additional inventories which elicited attitudes toward teaching mathematics and reading instruction. He found that beginning teachers who had problems managing their classrooms had significantly more negative attitudes toward other members of their school staff than did those beginning teachers who had no problems. Teachers having problems with discipline were found to be distinctly disorganized, unbusinesslike, cool and aloof, somewhat subject centered, rather routine in approach, weak in dealing with skill areas, and had unfavorable attitudes toward other staff members of their school. Beginning teachers who had problems teaching reading were described as disorganized, lacking in warmth and friendliness, lacking in imagination, lacking in favorable attitudes toward democratic pupil practices, and
having unfavorable attitudes toward school staff. Teachers who were having difficulty teaching on the level of their pupils (Expectancy Factor) were lacking in problem solving ability in skill areas, were cool and aloof, and were subject matter centered.

The question of whether teaching behavior can be predicted is of great importance. Using a multiple regression model, Seibel (63) found that a group of teacher behaviors could be predicted from a combination of factors. The combination of a low score on the Paranoia Scale of the Minnesota Multiphasic Personality Inventory (MMPI), a high score on the MTAI, frequent experiences in leading children, and responses on the Wickman Schedule which indicate that many pupil misbehaviors are viewed as serious were associated with a combination of teaching behaviors. Teachers with these characteristics tended to be serious, to comply with pupil requests, to provide emotional support and affectionate physical contact, to allow pupils to do things for themselves, to solicit suggestions from pupils, and to be somewhat immobile in their classrooms.

Achievement continues to be of concern to educators. Peck and Veldman (52) used the SRI, OWSC, DI, a Concern Statement, a Views of Life Statement, an Adjective Self Description, and observer ratings to determine personality characteristics of teachers who consistently produced high
achievers as measured by Arithmetic Reasoning Achievement Test scores. Surprisingly, the overall effectiveness rating of these teachers correlated only .49 with observers' ratings in the classroom and the observers' ratings did not correlate at all with pupil gain scores. Furthermore, attitudes as measured by the paper and pencil tests thought to be characteristic of effective teachers correlated negatively with the arithmetic reasoning scores, i.e., lack of defensiveness, alertness to classroom events, commitment to teaching, and positive attitudes toward supervisors correlated positively with poor achievement. Contrary to predictions, teachers who produced high achievers were found to be psychologically passive, cautious and lacking in self-confidence, unattractive as persons, practical rather than idealistic, dissatisfied with self, and dissatisfied with relationships with their own parents. In speculating about these unexpected results Peck and Veldman suggest that:

... it almost looks as though those who get children to learn the somewhat mechanical, atomized knowledge and skills tapped by standardized achievement tests might unwittingly deter other kinds of learning, creating a subtly depressing, low risk-taking atmosphere that could conceivably keep children from learning to cope vigorously, self-reliantly and happily with problems of learning and living (52, p. 7, 8).

Garvey (23) compared the self-concepts as measured by the Tennessee Self Concept Scale (TCS) of student teachers
rated high (receiving A's) with student teachers rated low (receiving less than B's) in student teaching. As ex-
pected, student teachers rated high also had higher self-
concepts, gave evidence of less confusion and conflict in self-perceptions, were less similar to mental patients and disturbed groups, and were better integrated as persons. This raises questions about the results of the previous study by Peck and Veldman though the criteria for evaluation and the instruments used were different in the two studies.

Research attempting to establish relationships between teacher personality and classroom climate is, for the most part, disappointing. Representative of this type of re-
search is a study by Lantz (40) who found that attitudes toward self and others do not correlate highly with class-
room climate. However, student teachers who see themselves as more skeptical and distrustful than they see other teachers tend to have a more open, supportive classroom climate. In another study, Anderson (2) also found that general personality does not correlate highly with class-
room climate. He did find that teachers with a high score on the Abasement Scale of The Edwards Personal Preference Scale (EPPS) had a more closed classroom climate.

A possible explanation for the difficulty in finding a significant relationship between classroom climate and
teacher personality is that both of these factors are
global concepts. Rexford, Willower, and Lynch (54) focused
only on the pupil control ideology as it relates to class-
room verbal behavior. They observed that teachers with a
more humanistic ideology as opposed to a custodial ideology
are more indirect in their classrooms. However, the per-
cent of time the teacher is talking is not significantly
different for the two types of teachers. Conflicting re-
sults were obtained by Dobson, Goldenberg, and Elson (18)
who observed elementary rather than secondary teachers.
No significant differences on the major interaction indices
were obtained between the two types of teachers. However,
humanistic teachers accepted and used pupil ideas for
longer periods of time and pupils initiated extended con-
versations more frequently. Custodial teachers were found
to lecture significantly more than humanistic teachers.

The last study relating teacher personality to teach-
ing behavior concerns teacher preferences for types of
report cards. Chansky (9) found that teachers who pre-
ferred report cards which deal only with academics, use
numerical ratings, and include only a few ratings (low
rated) are rigid in their thinking, have a narrow range of
interests, are anxious, lack confidence, and are low in
empathy. On the other hand, teachers who are flexible in
their thinking, express a wide range of interests, are
confident, and are aggressive in solving problems in socially approved ways prefer report cards which sample a wide variety of pupil characteristics, use more global and subjective ratings such as satisfactory or average.

In summary, clear and definite relationships between teacher personality and behavior are not established when global personality traits and global behaviors are the criterion measures which are compared. By using more specific measures of more limited factors, certain relationships are beginning to emerge. The way in which teachers perceive specific things about themselves does appear to influence their specific behaviors and preferences.

Effects of Training Programs

Student Teaching

One element of virtually all teacher education programs is student teaching. Several studies indicate that this part of the training sequence results in higher self-concepts, increased teaching skill, improved self-confidence, and certainty of self-assessment (12, 39, 65, 75). Other studies are not so positive. Student teachers were found to become more dogmatic, authoritarian, custodial, and they decreased in self-confidence (24, 32, 46). Silverman and Kimmel (64) found that immediate reinforcement by an observer through special FM equipment produced
significantly greater frequencies of verbal praise, appropriate physical contact, and contingency contracts than when there was no immediate reinforcement. Soares and Soares (67) found that student teachers trained in interaction analysis techniques increased in self-concept over a control group of student teachers not so trained.

Perhaps the conflicting results can be explained by the findings of Wilbur and Gooding (74). They found that the type of experience influenced the attitudes toward self and others. While all student teachers in their study became more controlling, only student teachers who were assigned to a cooperating teacher in a one-to-one relationship for eight week experiences in regular classrooms became more self-concealing.

Student teaching is being reexamined more frequently as the only element in teacher training programs which provides an opportunity for the teacher trainee to interact with children. The results of the studies reviewed above indicate that this reexamination is timely and necessary. If this is the case, then alternative or supplementary experiences to student teaching should be carefully scrutinized.

One alternative or supplement is the teacher laboratory on the college campus. An apparent advantage of the
on-campus experience is that it can be planned and controlled more carefully than the regular student teaching experience. On the college campus, the primary consideration is the welfare of the teacher trainee while the needs of the children take precedence over those of the teacher trainee in the regular classroom. Both types of experiences should be considered in the design of the professional semester. These overall effects were examined as the theoretical basis for this study was formulated.

**Microteaching**

Much has been written about the benefits and advantages which microteaching offers (1, 11, 21, 49). Teachers in training, as well as in-service teachers, may practice various skills assumed to be related to teaching effectiveness such as reinforcement techniques, varying stimulus situations, subject matter presentation skills, using illustrations and examples, and increasing student initiated questions (11). The use of videotape equipment is often included as a part of microteaching because it allows for nonverbal as well as verbal feedback for the teacher. However, it is not essential to the microteaching process (58). Some of the major advantages of using microteaching are: (1) it simplifies an extremely complex act, (2) it increases control over specific behaviors, (3) it is economical in that there is a high degree of teacher involvement
for the time expended by the teacher educator, (4) it increases the potential for teacher self-evaluation, and (5) it opens new avenues for teacher evaluation (21).

DeMarte (16) reports that microteaching results in significant changes in the intentions, perceptions and various aspects of teacher verbal behavior. Similar results are summarized in a review by Sadker and Cooper (61). Jensen and Young (34) found that a minimum of three microteaching experiences produced increased poise, warmth, involvement of pupils in the lesson, adaptation of the lesson to pupils' needs, and increased teacher interest in pupils. Essentially the same results are reported in a bulletin by the Association for Teacher Education (50).

However, not all reports are positive. Borg and others (5) found their tests inconclusive but conclude that the technique does show promise. Austad (3) was so disappointed in the results while trying to establish personality correlates with performance in a microteaching laboratory that he suggested that the entire area of research is pointless and should be abandoned. Kallenbach and Gall (37) found that interns trained by using microteaching were not significantly different from conventionally trained interns in classroom performance.
The long term effects of microteaching were compared with those of other training programs in a study by Stukat (70). Programs which included microteaching produced effects which did not differ significantly from the effects of programs which did not include such experiences.

Peterson (53) tested the effects of an experimental treatment consisting of viewing model films, reading a trainee handbook, practicing the skills demonstrated, and critiquing and reteaching the skill until achieving mastery. One group of twelve elementary teacher trainees received the treatment described above while another group of twelve elementary teacher trainees only viewed the model films and completed the trainee handbook. On the post-test measures of teaching behavior, the two groups did not differ significantly.

In view of these conflicting results, it appears that the effectiveness of microteaching as a technique in teacher education should be examined. Apparently the technique has possibilities since so many positive results have been obtained. However, considering the inconclusive results, more attention should be devoted to determining what factors in the microteaching process are responsible for the apparent effectiveness of the technique.
**Other Training Programs**

Most education courses in teachers colleges are not regarded as highly beneficial by teachers according to LeFevre who states:

Hermanowicz summarized the findings of thirteen separate research projects studying 312 teachers in their first three years of teaching in different parts of the country. Most of the teachers criticized their professional education courses; all valued their practice teaching experience and would have liked more time and help given it. Those (one half of the sample) whose first teaching job was in a different type of school than that in which they trained found the adjustment difficult (41, p. 439).

Despite these criticisms, education courses have been found to be effective in changing attitudes toward more humanistic and democratic practices (6, 30, 33). Courses rated more effective usually include some component in which the teacher trainee is involved in some way with children, e.g., tutoring, team teaching a unit, teaching a unit to a small group of pupils, field experiences, and modeling teaching strategies for each other (19, 31, 42, 45, 72, 73). In addition to being rated more highly and being considered more valuable by teacher trainees, instructors frequently view such procedures as being more valuable in the training program (19, 45).

A recent innovation in teacher education is simulation/gaming. Kidder and Guthrie (38) used a game to teach special education majors the basics of and procedures for
implementing behavior modification techniques. The conventional lecture approach was compared with playing the game and discussing the merits of the approach. The most effective approach was found to include playing the game, discussing it, and playing it again. Effectiveness was determined by observing the teacher trainees' behaviors as they taught a simple paper construction to special education pupils.

Special instructional strategies can also be taught to in-service teachers through special workshops or courses. Studies which described in-service programs in the Taba teaching strategies (4), self-concept enhancement training (20), the teaching strategies suggested in the Science: A Process Approach program (8), increasing communication skills (29, 55), and questioning skills (17) were reviewed. All reports indicated that these special programs were effective in achieving changes in teachers toward the intended goals.

All of these studies were conducted in situations where the participants did not have a choice of which activities appeared to them to be of greatest benefit once they were in the program. This appears to present a basic inconsistency in that the ultimate goal of the course or workshop was to facilitate the planning and implementation of experiences for children which are designed to promote
self-sufficiency in learning. Yet the very programs which were designed to foster these goals were highly structured and provided few if any alternatives for the teachers who later implemented them.

Whether self-initiated, self-selected experiences for teachers are effective in teacher education has never been adequately tested (57). It may be true, for example, that teacher trainees who have the freedom and responsibility to choose from a variety of experiences will, in the process of making these selections, become more confident, self-reliant, and skillful as teachers. This study was an attempt to determine the effects of such a program.

Theoretical Foundation of the Study

In the literature reviewed, various conclusions were reached. Hamachek (27) considers the personality of the teacher trainee to be of primary importance in teacher training. One personality trait, flexibility, appears to be established as essential to success in teaching. Yet other personality factors such as self-confidence, positive perception of self and others are also thought to be important though their necessity for success in teaching is not completely established.

The specific behaviors which teachers perform while teaching are also of importance. Providing feedback to
pupils, reinforcing appropriate pupil activity, phrasing high level questions, using examples and illustrations, using direct and indirect forms of communication when appropriate, and inducing set are specific behaviors which have been found to be effective when used appropriately (11, 14, 15, 22, 26, 48, 51, 60, 62, 77).

The broad context within which this study was conducted is a wholistic, humanistic approach to understanding human behavior known as phenomenological psychology. Within this context, the personality traits of the teacher are of major interest. It is assumed that many self-perceptions combine to form at least a part of these personality traits. As Combs and Snygg (10) indicate, self-perceptions are the most significant factor in determining human behavior. It is further assumed that these self-perceptions can be changed over a period of time. Self-perceptions are, it is felt, determined by repeated successes and failures in specific behaviors which are related to the goals established by an individual for himself.

The goal of becoming an effective teacher is assumed to be common to elementary education majors. Achievement of this goal is a process of building positive self-perceptions through repeated successes. Experiences during the professional semester which attempt to foster these positive self-perceptions are the focus of the study.
More specifically, what is under consideration is whether the practicing of self-selected experiences is effective in increasing a positive self-concept.

Teacher trainees, like other individuals, are unique as persons and have unique needs. Some of these needs are in the area of achieving proficiency and skill in teaching behaviors. Providing for these needs is necessary in order to achieve the goal of becoming an effective teacher. No single set of training experiences can provide for all of the differing needs. It is suggested, therefore, that self-selection in practicing teaching skills as one way of meeting individual needs and increasing positive self-perceptions should be tested.

Stanton supports this point of view by stating:

"... it would appear from the dozens, or more probably hundreds of studies reporting the results of their search for a reliable index of good teaching, that there does not exist an essential relationship between teaching effectiveness and any single overall pattern of teacher conduct.

In summary, then, the kind of propositions which emerge from a concentration on the personal rather than the competencies approach would be these.

1. The behavior of a teacher is a function of his personality.
2. Teacher education must be concerned with personality and with methods which change personality (69, pp. 25-26).

Loree also suggests that attitude and behavior are interrelated when he says:

It is the behavioral component of an attitude that is of prime concern for many attitudinal objectives in
teacher education. . . . Yet it may be that, for certain attitudinal objectives in teacher education programs, instructional procedures should be directed toward shaping both the belief and behavioral components of an attitude . . . researchers have not directed and sustained their attention to a study of changes, within a teacher education context, in the attitudes of the teacher candidate toward herself (43, p. 112).

This study was an attempt to shed light on this relationship. Specifically, as teacher trainees gain experiences of success in specific teaching skills, their self-perceptions of professional self-confidence are enhanced. Greater self-confidence, in turn, leads to development of greater competency.
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CHAPTER III

PROCEDURES

The purpose of this study was to determine the effects of practicing self-selected teaching skills on the professional self-confidence and teaching behavior of senior level elementary education majors. A related purpose was to make recommendations about the continued inclusion of practicing self-selected teaching skills in a program of teacher education which is highly individualized and personalized.

Chapter I presents an introduction to the study, a statement of the problem, the purposes, the hypotheses, the background and significance, a definition of terms, and the limitations and assumptions of the study. Chapter II reviews selected empirical studies and other pertinent literature and presents the theoretical position of the study. Chapter III is concerned with a description of the instruments used to measure personality characteristics and teaching behavior which are assumed to be related to teaching effectiveness. The design of the experiment is followed by the testing procedures and the experimental treatments. Finally, the methods used to prepare and analyze the data complete the chapter.
The Instruments

In the review of the literature presented in Chapter II, it was found that various research designs similar to the experimental and control treatments employed in this study produced conflicting results. It was noted that the instruments utilized for measuring the effects of these treatments normally measured broad, global personality factors. These instruments generally failed to detect differences. Two conclusions are warranted by such findings: (1) there really were no differences, and (2) there were differences which the instruments failed to detect.

Since it is assumed that global self-concepts are based on many repeated perceptions of success or failure, and since the experimental treatment period was limited to only a half semester, the global self-concept measures were also unlikely to detect changes, if any, in the present study. The instruments used were chosen because they provide measures of rather specific perceptions and attitudes, e.g., Confidence re Classroom Discipline, rather than the more global measures employed in a large number of previous studies. This choice was based on the assumption that more specific and limited measures could detect differences which the more global measures were not likely to show.

Several instruments were utilized for gathering personality and teaching behavior data. These instruments
have been used extensively by the Research and Development Center for Teacher Education at The University of Texas at Austin as measures of personality and teaching behavior. The three personality tests used may be administered to groups of subjects.

The Bown Self-Report Inventory

The SRI was first devised in 1958, and, since then has undergone extensive revision. It is designed as a straightforward self-assessment instrument which measures subjects' perceptions and feelings toward themselves and significant areas of their phenomenal world. The form which was used in this study, Form R-3, has forty-eight items (see Appendix A) and provides data on eight factorially distinct areas of the phenomenal world. The areas together with alpha reliability coefficients are:

1. Self. Items express acceptance, liking or valuing of oneself - or the opposite. (.78)

2. Others. Items express acceptance, liking or valuing of peers or the importance of satisfactory relationships with peers to one's own sense of well-being - or the opposite. (.63)

3. Children. Items express acceptance, liking or valuing of children or the satisfaction derived by the subject in relationships with children - or the opposite. (.85)

4. Authority. Items express acceptance, liking or valuing of older persons outside the family who are in positions of authority with respect to the subject - or the opposite. (.61)
5. Work. Items express a valuing of work or accomplishment in terms of its intrinsic or self-enhancing satisfaction to the subject — or the opposite. (.72)

6. Reality. Items express acceptance or valuing of life as a process (including death) and feeling at home in, and relatively comfortable with, a not always predictable world — or the opposite. (.39)

7. Parents. Items express acceptance, liking or valuing of one's own parents or the importance of one's relationship with parents to his own sense of well-being — or the opposite. (.87)

8. Hope. Items express an optimistic anticipation of the future or a sense of confidence that one will play a significant and satisfying role in future relationships and undertakings — or the opposite. (.64)

9. Total — the sum of all subscores. (.89)

The above reliability coefficients are based on data obtained from a group of 244 female students at the College of Education, The University of Texas at Austin. The coefficients are presented as evidence that the SRI reliably measures the factors selected. The coefficients were not used in later statistical analysis of the data.

Although many significant associations between the SRI and other personality measures have emerged, Bown and Richek (2) believe that the strongest evidence for validity of the instrument is its concurrent validity. A number of studies using the SRI found it capable of differentiating between high effective and low effective student teachers, between prospective elementary and secondary teachers where differing personality traits are desirable, and
between student teachers who are perceived positively and those who are perceived negatively by their pupils (5).

Validity and reliability of the SRI were accepted as satisfactory for this study. However, only the data from the Self, Others, Children, Hope, and Total subscales were used as they are more related to the specific purposes of the study.

The Peck-Veldman One-Word Sentence Completion Test

The OWSC was designed as a personality assessment instrument which could be scored and interpreted by a computer. The advantages of computer processing over human processing and interpretation are that computer time is less expensive than that of an experienced clinical psychologist and computers are more objective than human judges once the bases for judgment are defined and programmed.

The ninety-item form, Form 4-A, which was used in this study contains stems which require descriptor responses, stems which elicit transitive verbs, and stems which present reactions and ask for stimulus objects (see Appendix B). The one word limitation retains most of the value of the usual free response sentence completion format. The OWSC provides clinical ratings on twenty-five personality
variables. Below is a list of these variables and the correlation coefficients between the computer ratings and the summary ratings of two clinical psychologists of seventy-nine female elementary education majors at The University of Texas at Austin.

1. General Self-Perception .46
2. Optimism - Pessimism .75
3. Sexual Self-Perception .76
4. Psychosexual Integration .71
5. Attitude Toward Own Past .78
6. Independence, Self-Reliance .69
7. Confidence re Classroom Discipline .47
8. Attitude Toward Father .53
9. Attitude Toward Mother .56
10. Attitude Toward Men .73
11. Attitude Toward Women .59
12. General Attitude Toward Others .60
13. Extraversion - Introversion .45
14. Attitude Toward Authority .63
15. Implied Teacher-Child Interaction .51
16. Self in Parental Role .89
17. Attitude Toward Teaching Profession .80
18. Self in Marriage Role .89
19. Attitude Toward Stress .76
20. Persistence, Tenacity .55
21. Perception of Own Ability .57
22. Intellectual Concern .53
23. Clarity re Future .76
24. Energy, Activity Level .82
25. General Mental Health .68

In the study which included the seventy-nine elementary education majors, the computer agreed with the judges as well as they agreed with each other. Extensive validity studies are in process, and preliminary evidence indicates that the computer-derived ratings are as useful as those made by clinicians (9).
Although it would have been desirable to have had greater validity and reliability, these data are comparable to such data for instruments used in other studies of this type. The OWSC appeared to be a useful instrument in achieving the purposes of the study. Only the data from the Independence, Self-Reliance; Confidence re Classroom Discipline; Implied Teacher-Child Interaction; Attitude Toward Teaching Profession; Perception of Own Ability; and General Mental Health subscales were used in this study.

**The Veldman Directed Imagination Test**

The DI is a projective personality assessment technique for teacher candidates. Each respondent is given four sheets of blank paper and is told that he will have four minutes to complete each of four fictional stories he is to write about teachers and their experiences (see Appendix C). Each story is then rated along a seven point continuum in each of fifteen scales as described in detail in the manual for scoring the test.

The fifteen scales in which the fictional stories are rated are listed below together with the intraclass correlations between two raters based on a sample of 250 protocols.

1. Amount of Content .73
2. Degree of Focus .73
3. Realism .76
4. Coherence .53
5. Imagination  .62  
6. Optimism  .72  
7. Teaching Role  .76  
8. Self-Ability  .67  
9. Crisis Level  .74  
10. Empathy  .57  
11. Educational Content  .82  
12. Coping Activity  .56  
13. Appropriate Action  .73  
14. Problem Resolution  .80  
15. General Adjustment  .70  

The DI also appeared to have sufficient validity for the purposes of the study. It was able to differentiate between elementary and secondary education majors; between undergraduate education majors who received experimental and control treatments in a study of the effects of mental health feedback; between those highly committed to the teaching profession and those not highly committed; and between education majors who were required to attend counseling interviews with counselors and those who voluntarily chose additional counseling (8). Only the data from the Teaching Role, Self-Ability, Educational Content, and General Adjustment subscales were used in this study.

The SRI, OWSC, and DI were developed as parts of a battery of tests to measure various personality dimensions. The three instruments were devised to measure the same psychological constructs differing mainly in the format chosen to elicit the subjects' responses. A factorization process was used to refine the instruments until the personality dimensions measured were distinct (2, 8, 9).
Analyses performed to date at North Texas State University and at The University of Texas at Austin indicate consistency among the three instruments with the highest consistency occurring between the SRI and the OWSC. Such analyses also indicate the feasibility of combining subscales from the three instruments in a manner consistent with the definition of those subscales. On this basis, the subscales or combinations of subscales shown in Figure 1 were chosen as measures of the personality traits selected for testing in this study. The subscales were combined with equal weighting when combinations were used to define and measure a variable.

The measures of attitude toward self and attitude toward others each consisted of only the subscale by that title from the SRI. The measures of attitude toward children, identification with the teaching role, and identification with the teaching profession each consisted of combinations of two subscales from two of the tests. The measures of self-confidence and general mental health consisted of one or more subscales from all three of the instruments. Titles of the variables and their definitions were the criteria which determined which subscales to combine.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Test</th>
<th>Subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Confidence</td>
<td>SRI</td>
<td>Hope</td>
</tr>
<tr>
<td></td>
<td>OWSC</td>
<td>Independence, Self-Reliance</td>
</tr>
<tr>
<td></td>
<td>OWSC</td>
<td>Confidence re Classroom</td>
</tr>
<tr>
<td></td>
<td>OWSC</td>
<td>Discipline</td>
</tr>
<tr>
<td></td>
<td>DI</td>
<td>Perception of Own Ability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-Ability</td>
</tr>
<tr>
<td>Attitude Toward Self</td>
<td>SRI</td>
<td>Self</td>
</tr>
<tr>
<td>Attitude Toward Children</td>
<td>SRI</td>
<td>Children</td>
</tr>
<tr>
<td></td>
<td>OWSC</td>
<td>Implied Teacher-Child Interaction</td>
</tr>
<tr>
<td>Attitude Toward Others</td>
<td>SRI</td>
<td>Others</td>
</tr>
<tr>
<td>Identification With The Teaching Role</td>
<td>OWSC</td>
<td>Confidence re Classroom</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Discipline</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teaching Role</td>
</tr>
<tr>
<td>Identification With The Teaching Profession</td>
<td>OWSC</td>
<td>Attitude Toward Teaching Profession</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Educational Content</td>
</tr>
<tr>
<td>General Mental Health</td>
<td>SRI</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>OWSC</td>
<td>General Mental Health</td>
</tr>
<tr>
<td></td>
<td>DI</td>
<td>General Adjustment</td>
</tr>
</tbody>
</table>

Fig. 1--Variables, tests, and subscale titles used as measures of personality traits.

The Fuller Affective Interaction Record

The FAIR is a categorization system for coding teacher and pupil behavior (see Appendix D). It is basically a tally system which is an extension of The Amidon-Flanders Verbal Interaction Category System. The teacher behavior categories are essentially the same as those in the Amidon-Flanders system. The pupil behavior categories of the
Amidon-Flanders system were subdivided to afford considerably greater precision in classifying and recording pupil behavior. Both verbal and non-verbal behavior is observed and coded (1).

The data may be used to calculate proportion scores for each of the thirteen categories and also measures of teacher behavior, direct and indirect teacher behavior, pupil behavior, and pupil affect. In this study, only the teacher behavior and pupil behavior summary measures were used in the analysis.

Design of the Study

The problem of this study was to determine effects of the practicing of self-selected teaching skills on measures of personality and teaching behavior. However, only the effects produced during a one-half semester course were included. It was anticipated that it is possible to effect only limited changes in so short a time. In addition, the experimental treatment itself rather closely paralleled the testing procedures of the FAIR. Therefore, the design chosen needed to be one which provides for precision in determining the effects of the treatment conditions.

One design, the Solomon Four-Group Design, allows for various comparisons in an effort to determine the source of changes in the subjects. Campbell and Stanley describe the merits of this design as follows:
While Design 4 [The Pre-Test - Post-Test Control Group Design] is more used, Design 5, the Solomon Four-Group Design, deservedly has higher prestige and represents the first explicit consideration of external validity factors. . . . both the main effects of testing and the interaction of testing and X [the experimental treatment] are determinable (4, pp. 24-25).

The Solomon Four-Group Design requires random assignment of subjects to treatment groups. It provides for two groups which are subjected to the experimental treatment and two groups which are subjected to the control treatment. All subjects complete post-tests, and, in addition, one of the experimental treatment groups and one of the control groups complete pre-tests. Campbell and Stanley diagram the design as follows:

```
R 01 X 02
R 03 04
R X 05
R 06 (4, p. 24).
```

In the diagram, reading from left to right, each row presents the sequence of the study. The first row indicates that a group is randomly selected (R), is pre-tested (01), participates in the experimental treatment (X), and is post-tested (02). The second row indicates that a group is selected at random (R), is pre-tested (03), and is post-tested (04) at the conclusion of the experiment. Rows three and four indicate that groups are selected at random (R), the group in row three receives the experimental
treatment (X) while the group designated by row four does not, and both groups are post-tested \((0_5, 0_6)\). The columns of the diagram indicate that each event in that column occurs simultaneously.

Because the Solomon Four-Group Design allows for consideration of the interaction of testing and the treatments, it was chosen as the design for the present study. The number of subjects available was accepted as sufficient to allow for random assignment of the subjects to one of the four groups required.

Preliminary Arrangements

In 1971, the chairman of the Education Division of Concordia Teachers College, Seward, Nebraska, granted permission to use students in the new teacher laboratory course as subjects. Following the approval of the study, permission to use small groups of children from a nearby school as subjects to be taught while testing the teaching behavior of the teacher trainees was sought through the Coordinator of Field Experiences at Concordia Teachers College. The general purposes of the study and specific requests of the teachers were presented at a faculty meeting. The faculty agreed to cooperate.

Prior to the pre-testing, a list was compiled which included the names of the ninety-six students who were
expected to enroll in the teacher laboratory course during the first half of the spring term in 1973. Groups of twenty-four students were randomly selected by a drawing process and the four resulting groups were also randomly selected for treatment condition by a drawing process.

Later it was determined that one person who had been assigned to the experimental treatment group with pre-testing (E-1), one person from the experimental treatment group without pre-testing (E-2), two people from the control treatment group with pre-testing (C-1), and one person from the control treatment group without pre-testing (C-2) had failed to complete the registration process. These people were dropped from the study. In addition, two people not on the list who had enrolled were arbitrarily placed in the C-2 group. The final numbers for each group were: E-1 (N=23), E-2 (N=23), C-1 (N=22), and C-2 (N=25).

Testing Procedures

All students who were registered for the teacher laboratory course during the first half of the semester were asked to assemble for an orientation to the course on the first day of classes. During this session a schedule of the pre-testing and initial experimental treatment meetings was distributed and explained.
Pre-Testing

The pre-testing procedure which involved only the E-1 and C-1 groups was completed in the sequence and manner described below.

1. The SRI was completed according to the directions on the instrument.

2. The OWSC was completed according to the directions on the instrument with one exception. It was pointed out that the test would not be used for individual guidance as the directions indicate but for research purposes only.

3. The DI was completed according to the directions on the instrument with the following additions. At the end of three minutes, subjects were notified that one minute remained to complete that story. They were also allowed one minute before writing each story to organize their thoughts.

These steps were completed during the second session of the first week. Assurances were given that all information would remain confidential and that the only purpose of the testing was to evaluate the program.

4. At the conclusion of the testing session, it was announced that proper evaluation of the program necessitated knowing how students taught when they began the program. The subjects were informed that the fourth and fifth days of the first week would be devoted to such an
assessment. Each subject was instructed to plan a ten-minute lesson for a group of four children dealing with a topic which would be assigned. Any procedure the teacher trainee chose to use to develop the concept was acceptable so long as it would be possible to videotape the lesson. If more material had been planned than could be completed in the time allotted, no one would be penalized. Help with materials or plans was offered to all who needed such help. No one requested this assistance. This assignment produced considerable anxiety.

A prepared assignment sheet was distributed to each person informing him of the date and time of the lesson, the name of the lesson, the names of the children to be taught, the classroom teacher's name and grade level, and the place where the lesson would be taught while being videotaped. Subjects were asked to be prepared and prompt in meeting the children at their classrooms and in bringing them to the designated area for videotaping. They were reassured that this procedure was only for the purpose of evaluating the program but that the welfare of the children warranted careful preparation. Titles of the lessons are presented in Appendix F.

5. During the actual videotaping process, each subject went to the designated classroom, escorted the children assigned to his group to the videotaping room in the same
building, taught the lesson, and escorted the children back to their classroom. Only the first seven minutes of each lesson were recorded. The videotaping was completed on the fourth and fifth days of the first week.

**Post-Testing**

Similar procedures were followed during post-testing as were followed during pre-testing. All of the ninety-three students in the teacher laboratory course participated in the post-testing. The steps below outline completion of the data gathering process for securing measures of personality and teaching behavior.

1. At the general session for all students during the sixth week, directions were given about preparing for the post-test teaching behavior lessons. Assignment sheets which outlined specific directions were distributed to all students.

2. On the second through the fifth days of week seven, each group of four elementary pupils who participated in the pre-test lessons was taught a mathematics and a science lesson by two teacher trainees. The first seven minutes of these lessons were videotaped as during the pre-test. The teaching behavior post-testing was done on the college campus in the room used for microteaching rather than at the elementary school. Post-test lesson titles are presented in Appendix G.
3. During the general session of week eight, the personality tests were administered in the same sequence and manner as during the pre-test. Approximately ten students were unable to be present at that time so another time was scheduled for them the following evening.

The Treatments

Control

The ninety-three subjects in the study were registered for the course, The Teacher Laboratory. The course offered four semester hours of credit upon successful completion. In addition, all subjects were registered for another two semester hour course, Office of the Christian Teacher, and either a music methods or physical education methods course which yielded two semester hours of credit upon successful completion. However, even though a subject had registered for only one or the other methods course, any experiences from the other course were available to him on an optional basis.

Seven faculty members had responsibility for various aspects of the teacher laboratory course. Four had full-time responsibility and the remaining three were available only part-time. Each faculty member on the laboratory staff team had expertise in one or more of the following larger areas: science, mathematics, music, physical
education, social studies, reading, classroom organization, media, and elementary curriculum organization. In addition, other faculty members presented lectures by invitation of the subjects or the laboratory director.

Following the general orientation on the first day, each subject chose one of the seven faculty members as the coordinator of his program. The subjects met with the coordinator individually on a weekly basis to plan an individualized program of classes, independent study, and practicum-observation experiences, and to discuss progress and problems in the program.

During the first week, a battery of diagnostic tests in teaching competencies, mathematics and social studies content, physical education teaching strategies, and music strategies were administered. Results were distributed by coordinators by the middle of the second week. Subjects were encouraged to take their perceived needs and goals into consideration as they planned their program from week to week. It was suggested that they divide their time as evenly as possible between class sessions, independent study, and practicum-observation experiences. The minimum of a forty-hour work week for all eight semester hours of credit was presented as a guideline. Attendance at all classes in the four-hour laboratory was on an optional basis.
Subjects were required to file a report with the coordinator on a weekly basis listing the activities of the previous week and the amount of time devoted to each activity. In addition, a plan was filed for the current week including specific time allotments to be devoted to the three general types of activities indicated above. Appendix H is a list of the titles of class sessions from which subjects could choose. Titles were posted on bulletin boards approximately a week before the class was offered. Subjects were required to sign-up for each class they wished to attend.

At the completion of the course, each subject completed the competency scale again; provided a summary of all classes, independent studies, and practicum-observation experiences; and assigned a grade for the teacher laboratory experiences cooperatively with the coordinator.

**Experimental**

The subjects in the experimental treatment groups, E-1 and E-2, also participated in the same experiences described above for the control groups. The coordinators were notified which subjects were in the experimental groups and were asked to encourage them to spend a minimum of four hours per week in weeks two through six on the experimental program.
Initially, the subjects in Groups E-1 and E-2 met for a fifty-minute class session on the second day of the first week. At this time they were informed that they had been selected to receive special experiences as outlined in *The Florida B2 Modules for Individualizing Teacher Education Materials* (Florida Modules). Several module booklets were distributed and the common features of the booklets were pointed out.

The experimental subjects were asked to spend a minimum of twenty hours in weeks two through six in class sessions where the modules would be discussed and/or in practicing the skills explained in one or more self-selected modules either with peers or with children in nearby schools. They were encouraged to utilize the videotape equipment to receive feedback.

In this session a list of all behavioral objectives developed by the modules was also distributed. Subjects were asked individually to select no more than twenty objectives and rank these in order of perceived benefit toward becoming an effective teacher. These priority lists were combined later and posted on a bulletin board in the room where the videotaping equipment was stored and used. Closing remarks for the session included an announcement that further descriptions of the program would be presented during the next session for the experimental subjects.
At the session during the second week, the priority listings were shown and explained. Subjects were encouraged to work together whenever possible as only one copy of each of the module booklets was available. The researcher indicated that he would be available at the four designated regularly scheduled hours each week for discussion of the modules and for supervising the practicing of the skills presented in the module booklets. Two hours were scheduled on Tuesdays, one in the morning and one in the afternoon, and two hours were scheduled on Thursdays at the same times.

Figure 2 presents a list of the modules which were discussed in the class sessions open only to the experimental treatment subjects. Summary descriptions of the skills presented in the module booklets were duplicated, distributed and discussed. In addition, the last three skills were illustrated using either a videotape of another teacher who was demonstrating the skill or the researcher demonstrated the skill during a sample lesson.

<table>
<thead>
<tr>
<th>Week</th>
<th>Module Number</th>
<th>Module Title</th>
<th>Method of Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>III-5</td>
<td>Increasing Participation</td>
<td>Discussion</td>
</tr>
<tr>
<td>3</td>
<td>IV-6</td>
<td>Classroom Management</td>
<td>Discussion</td>
</tr>
<tr>
<td>4</td>
<td>V-1 to 5</td>
<td>Questioning Skills</td>
<td>Videotape</td>
</tr>
<tr>
<td>5</td>
<td>IV-5</td>
<td>Reinforcement</td>
<td>Videotape</td>
</tr>
<tr>
<td>6</td>
<td>IV-4</td>
<td>Achieving Closure</td>
<td>Demonstration</td>
</tr>
</tbody>
</table>

Fig. 2--List of module numbers, titles, week treated, and methods used in presentation.
The first session in each week was devoted to a presentation and discussion of the skill and the second session each week was devoted to practicing the skill with peers. Practicing other skills was done at any other time with peers that those interested could find time to meet. Subjects were also encouraged to practice the skills while doing their practicum-observation experiences with the children from nearby schools. Appendix E lists the module titles and the number of experimental treatment subjects who reported practicing the skills presented in the booklets.

Data Preparation

Responses from the SRI were transferred to data cards and scored by computer according to the program presented in the manual (3). The responses on the OWSC were also key punched on data cards according to the directions in the manual (9). The OWSC data cards were taken to the Research and Development Center for Teacher Education at The University of Texas at Austin for scoring.

The fictitious stories elicited by the DI were scored according to the directions in the manual (10). Each story was rated on a scale from one to seven on the four variables: Teaching Role, Self-Ability, Educational Content, and General Adjustment. The scores for each story on each
of the four variables were key punched on data cards for later summary and analysis.

The seven-minute lessons which had been videotaped were coded by three independent coders. Three females who had from two to five years of teaching experience but who were not employed by schools at the time did the coding. A nominal fee was paid to the coders for their services.

The procedures of the coding process and the FAIR categories (Appendix D) were explained, i.e., coders were to observe what was happening in the lesson and make a judgment about the most appropriate category describing the behavior observed every three seconds. A cassette recording of a bell signal every three seconds had been pre-recorded and was used to standardize the coding process as much as possible.

Coders were trained by discussing the definitions of the thirteen FAIR categories and coding sample videotaped lessons similar to the teaching behavior in the study. Inter-rater reliability was computed using the procedures suggested by Scott (7). Since Scott's formula provides for comparing the codings of only two raters, the inter-rater reliability was computed for coders one and two, one and three, and two and three separately. These three reliabilities were then averaged to compute a mean inter-rater index of agreement. When this index reached .83, the
coding of the seven-minute videotaped lessons began. The training period was completed in approximately seven hours.

The order of coding the eighteen videotapes was determined by random selection. Seven or eight lessons were recorded on each tape and were coded in the order in which they had been recorded on that tape. Coders were not told whether the lesson was a pre-test or a post-test or whether the teacher was from the experimental or control treatment groups. The inter-rater index of agreement was computed for each lesson. A mean index of .76 was found for all 138 lessons.

Upon completion of the coding, the data from each coder for each lesson were key punched on data cards. These data were later analyzed by computer.

The summary reports of the subjects which were filed with the coordinators during the final evaluation conference were used to secure data for analysis of time utilization. These summaries were categorized according to the number of hours spent in each of the following activities: science classes, mathematics classes, social studies classes, other classes, independent study, practicum-observation experiences, and Florida Modules. The number of hours spent in each activity was transferred to computer data cards for later analysis.
Data Processing

The following transformations were performed by computer before any statistical tests were applied. The DI manual prescribes that a rating of one is highest and a rating of seven is lowest for the Teaching Role, the Educational Content, and the General Adjustment subscales. These ratings were reversed so that a seven became the high score and a one became the low score. On the Self-Ability subscale, the manual prescribes that the highest rating is a four and the lowest rating is either a one or a seven. The scores of the four stories were, therefore, transformed so that a one or seven became the low rating of one, either a two or a six became a rating of three, either a three or a five became a rating of five, and a rating of four became the highest score of seven. Following these transformations, the scores for each story were summed for each subscale. These changes were made to make the data on the DI comparable with the data from the other tests.

On the FAIR, the score for each variable was computed by averaging the scores of the three coders. This process was also completed by computer.

Following this, the personality subscale scores which were combined with those of other instruments were converted to standard scores with a mean of zero and standard
deviation of one using the procedure described by Roscoe (6, pp. 53-57). This procedure made it possible to combine measures from the three instruments when combinations were useful in defining and measuring a personality trait.

A two-way analysis of variance using the standard program for the unweighted means solution available at the North Texas State University Computer Center was calculated using the post-test scores of the four groups. The treatment condition and the pre-testing were the independent variables and the post-test scores were the criterion measures. Scheffe's Test for all possible comparisons was computed to determine which means differed significantly in the event of significant interaction.

Following this, a one-way analysis of covariance using the standard program for this procedure available at the North Texas State University Computer Center was calculated for group E-1 versus group C-1. The pre-test scores were used as the covariant and the post-test scores were the criterion measures. This procedure is suggested by Campbell and Stanley when the two-way analysis of variance does not detect significant differences (4, p. 25).

Testing the Hypotheses

Each hypothesis was restated in null form for testing. The appropriate F-ratios and probability levels were
calculated by computer. In all cases, a probability level of $P \leq .05$ was arbitrarily selected as necessary to reject the null hypothesis of no significant differences among the groups.

Testing the Non-Hypothesized Data

**Time Utilization**

Each hour the students had spent in the teacher laboratory course had been classified in one of seven categories: science classes, mathematics classes, social studies classes, other classes, independent study, practicum-observation experiences, and Florida Modules. The significance of the differences among the mean number of hours spent by each group in each category was tested using a one-way analysis of variance. Each of the seven categories was compared separately. A significant F-ratio was followed by the Scheffé Test for all possible comparisons to determine which groups differed significantly from each other as suggested by Roscoe (6, p. 439).

**General Mental Health**

General Mental Health was defined as the personality trait measured by the SRI Total, the OWSC General Mental Health, and the DI General Adjustment subscales combined with equal weighting. The two-way analysis of variance and
the one-way analysis of covariance were the statistical tests applied to determine whether significant differences existed among the means of the groups.

Chapter Summary

Chapter III presents the procedures of the study. A description of the SRI, the OWSC, the DI, and the FAIR indicated that these instruments appeared to be suitable for gathering data to test the four hypotheses. The Solomon Four-Group Design was selected because it allowed the testing of effects of pre-testing on the criterion measures. The testing procedures and treatments are presented in a description of the teacher laboratory course for the first half of the second semester of the 1972-73 academic year at Concordia Teachers College, Seward, Nebraska. The procedures for preparing and analyzing the data are outlined briefly. Methods for testing each hypothesis complete the chapter.
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CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The assumption that selected training experiences can affect teacher effectiveness underlies the present investigation. Whether the practicing of self-selected teaching skills effects any measurable change in specific self-perceptions and attitudes or in the teaching behavior of the teacher trainee is of specific interest and concern. The ultimate objective is to make recommendations concerning the continued inclusion of practicing self-selected teaching skills in individualized programs for senior level elementary education majors.

In the first three chapters of this report, the background and conduct of the experiment are described. Chapter I includes the introduction, a statement of the problem and the purposes, a formulation of four hypotheses, the background and significance, a definition of terms, and the limitations and assumptions. Chapter II is a review of pertinent literature related to the investigation and the presentation of the theoretical basis of the study. In Chapter III a description of the instruments, the design of the study, the data gathering procedures, a description of
the experimental and control treatments, the methods for preparing and analyzing the data, and the methods employed to test the hypotheses are presented.

This chapter is an exposition of the findings which resulted from the procedures previously described. The findings relevant to each hypothesis are presented in order. Following presentation of selected data resulting from the statistical analyses, a brief discussion about the findings is included.

Hypothesis I

This hypothesis was restated in null form for statistical testing. In null form, Hypothesis I states that the experimental treatment groups will not differ significantly from the control treatment groups on the following post-test measures of personality: self-confidence; attitudes toward self, children, and others; identification with the teaching role; and identification with the teaching profession.

Self-Confidence

Table I presents selected data relevant to the effects of the experimental treatment and the testing condition on the measures of self-confidence. The two-way analysis of variance was computed on the post-test measures of all four treatment groups. Neither of the independent variables was
TABLE I
SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR
MEASURES OF SELF-CONFIDENCE

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance ***</th>
<th>Analysis of Covariance****</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean**</td>
<td>F-ratio</td>
</tr>
<tr>
<td>Self-Confidence</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>0.0537</td>
<td>0.8760</td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>-0.0504</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>0.0247</td>
<td>0.1498</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>-0.0243</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>1.0967</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**Based on transformed standard scores with mean of 0 and standard deviation of 1.

***2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

****1-way ANOCoV for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
found to affect the measures of self-confidence. The fact that some subjects received pre-tests did not significantly affect their post-test scores. This finding is presented in the row means, F-ratio, and probability level. Whether the subjects received the experimental treatment was also found to have no significant effect on the post-test scores. This finding is presented in the column mean, F-ratio, and probability level.

The one-way analysis of covariance presented in the second part of the table indicates that when the pre-test scores of groups E-1 and C-1 are used as the covariant, the experimental treatment is still found to have no significant effect on the post-test scores of these subjects.

These findings indicate that the experimental treatment did not effect a measurable positive change in self-confidence under the conditions of this study.

**Attitude Toward Self**

Table II presents the findings relative to the effects of the experimental treatment and pre-testing on The Brown Self-Report Inventory (SRI) measure of attitude toward self. The subjects who were pre-tested did achieve a higher mean on the post-test. However, the resulting F-ratio failed to reach the prescribed level of significance. The means of the experimental treatment groups and the control groups
TABLE II

SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR MEASURES OF ATTITUDE TOWARD SELF

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>F-ratio</td>
</tr>
<tr>
<td>Attitude Toward Self</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>18.0889</td>
<td>2.1939</td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>16.8750</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>17.7826</td>
<td>0.5942</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>17.1489</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td>--</td>
<td>1.4273</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
were virtually the same. The resulting F-ratio and the corresponding probability level indicate that differences as great or greater could be expected to occur by chance forty-four times in a hundred. Interaction between the independent variables and the criterion measure also failed to reach the prescribed .05 level of significance.

The one-way analysis of covariance indicates that the adjusted mean for the experimental treatment group, E-1, was also somewhat higher than that of the control group, C-1. However, the resulting F-ratio and probability level were also far from reaching the level of significance required to reject the null hypothesis of no significant differences.

These findings indicate that the experimental treatment did not effect a measurable positive change in attitude toward self under the conditions in this study.

**Attitude Toward Children**

Table III presents the summary of group means, F-ratios and probability levels which result from the measures relating to attitude toward children. The two-way analysis of variance resulted in a finding of no significant differences. The interaction effect of any combination of testing and treatment conditions failed to affect the post-test measures in such a way as to produce a significant F-ratio.
### TABLE III
SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR MEASURES OF ATTITUDE TOWARD CHILDREN

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Mean**</td>
<td>F-ratio</td>
</tr>
<tr>
<td>Attitude Toward Children</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>0.0231</td>
<td>0.0795</td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>-0.0216</td>
<td>0.0795</td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>0.0073</td>
<td>0.0040</td>
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<tr>
<td></td>
<td>C</td>
<td>-0.0071</td>
<td>0.0040</td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.4401</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**Based on transformed standard scores with mean of 0 and standard deviation of 1.

***2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

****1-way ANOCoV for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
The same was true of the row effect, the presence of the pre-testing condition, which likewise failed to produce a significant F-ratio. A similar result was found for the column effect, the experimental treatment. The practicing of self-selected teaching skills did not significantly alter the subjects' measured attitudes toward children.

The one-way analysis of covariance also resulted in a finding of no significant difference between the group E-1 and C-1 post-test scores when the pre-test scores of the two measures of attitude toward children were used as the covariant.

The results presented indicate that neither the experimental treatment nor the presence of pre-testing had a significant measurable effect on the subjects' attitudes toward children.

**Attitude Toward Others**

Table IV presents the group means, F-ratios, and probability levels for the SRI subscale which measures the subjects' attitude toward others. As before, there were no significant differences. Interaction effects were found to have a probability level of .94 indicating that no combination of pre-testing and treatment condition produced a significant change in the criterion measure. Those subjects who had been pre-tested had slightly higher mean scores on the post-test. However, the resulting F-ratio
<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>F-ratio</td>
</tr>
<tr>
<td>Attitude Toward Others</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>19.2000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>18.8542</td>
<td>0.3159</td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>19.0217</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>19.0213</td>
<td>0.0002</td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.0053</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
failed to meet the test of significance. Those subjects who had received the experimental and control treatments had virtually the same mean scores on the post-test. This would appear to indicate that the experimental treatment was ineffective in altering, in a measurable positive direction, the subjects' attitudes toward others.

Using the pre-test scores as the covariant for groups E-1 and C-1 on the measure of attitude toward others, the results are still virtually the same. The F-ratio of 0.08 in the one-way analysis of covariance could have occurred by chance in seventy-eight of a hundred cases.

These findings indicate that neither the testing condition nor the experimental treatment had a significant measurable effect on the SRI subscale, Attitude Toward Others.

Identification with the Teaching Role

Table V presents the group means, F-ratios, and probability levels of the measures relating to identification with the teaching role. In the two-way analysis of variance the test for significant interaction was performed first. No significant interaction was found to be present indicating that effects of the pre-testing and the experimental treatment are independent of each other. Next the effect of the presence of pre-testing alone on the criterion
<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Analysis of Variance***</th>
<th>Analysis of Covariance****</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean**</td>
<td>F-ratio</td>
</tr>
<tr>
<td>Identification With The Teaching Role</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>0.0375</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>-0.0352</td>
<td>0.1537</td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>0.3759</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>-0.3679</td>
<td>33.7144</td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td>--</td>
<td>1.9131</td>
</tr>
</tbody>
</table>

**E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.**

**Based on transformed standard scores with mean of 0 and standard deviation of 1.**

***2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.***

****1-way ANOCoV for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
measure was tested. The F-ratio of 0.15 indicates that when subjects are pre-tested, there is no significant effect upon their post-test scores. Following this, the simple effect of the treatment condition was tested. The F-ratio of 33.71 indicates that the presence of the experimental treatment did significantly affect the post-test scores of the subjects.

When the pre-test scores of groups E-1 and C-1 are used as the covariant in the one-way analysis of covariance, there are differences between the experimental subjects and the control subjects on the measures of identification with the teaching role significant at beyond the .01 level of confidence.

These findings indicate that the testing condition does not have a significant effect on the measures of identification with the teaching role. However, the experimental treatment group means are significantly higher indicating that these experiences were effective in helping the subjects identify with the teaching role.

Identification with the Teaching Profession

Table VI presents the group means, F-ratios, and probability levels of measures of the subjects' identification with the teaching profession. In the two-way analysis of variance, the test for interaction was performed first.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance***</th>
<th>Analysis of Covariance****</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean**</td>
<td>F-ratio</td>
</tr>
<tr>
<td>Identification With The Teaching Profession</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>0.1016</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>-0.0951</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>0.2207</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>-0.2159</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.0442</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**Based on transformed standard scores with mean of 0 and standard deviation of 1.

***2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

****1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
No significant interaction was found to be present as is indicated by the F-ratio of 0.04. Next the simple effect of the row variable, the presence of pre-testing, was tested. The F-ratio of 1.40 is also not significant at the prescribed level of .05. The simple effect of the column variable, the treatment condition, was then tested. The F-ratio reached the prescribed .05 level of significance indicating that the experimental treatment, the practicing of self-selected teaching skills, did significantly affect the post-test scores of the subjects in the experimental treatment groups.

Using the pre-test scores of the subjects in groups E-1 and C-1 as the covariant in the one-way analysis of covariance also produced the finding of a significant difference between the experimental treatment group and the control treatment group. The null hypothesis must be rejected in this case.

These findings indicate that the pre-testing condition did not have a significant effect on the measures of identification with the teaching profession. However, the experimental treatment group means were significantly higher than those of the control treatment group on the post-tests. This finding indicates that the experimental treatment was effective in helping these subjects identify
with the teaching profession to a greater extent than did the control treatment.

The findings which relate to Hypothesis I indicate no significant interaction between the effects of the testing condition and the effects of the treatment condition. Therefore, the effects of these two variables are judged to be independent of each other in this study. The simple effect of the row variable, the testing condition, failed to reach the prescribed .05 level of significance necessary to reject the null hypothesis in all statistical comparisons related to Hypothesis I.

With respect to the treatment condition, Hypothesis I is partially rejected and partially retained. No significant differences were obtained between the experimental treatment groups and the control treatment groups on the measures of self-confidence, attitudes toward self, attitudes toward children, and attitudes toward others. Therefore, the null hypothesis is retained in these measures.

The experimental treatment groups obtained significantly higher scores than did the control treatment groups on the post-test measures of identification with the teaching role and of identification with the teaching profession. Therefore, the null hypothesis is rejected for these measures.
Hypothesis II

This hypothesis was restated in null form for statistical testing. In null form, Hypothesis II states that the experimental treatment groups will not differ significantly from the control treatment groups on the FAIR post-test measures of indirect teacher behavior or of direct teacher behavior.

Indirect Teacher Behavior

Indirect teacher behavior was defined as the sum of the first four variables on the FAIR: accepts feelings, encourages or praises, accepts ideas, and asks questions. Table VII presents the means, F-ratios, and probability levels of this combination of FAIR variables.

In the two-way analysis of variance, the significance of interaction was tested first. The F-ratio of 1.37 failed to reach the prescribed .05 level of significance. This finding indicates that the testing procedure and the treatment condition effects are independent of each other. Next the row variable, the presence of pre-testing, was tested. The F-ratio of 0.05 failed to reach the prescribed .05 level of significance. This finding indicates that the pre-testing did not significantly affect the post-test scores of the subjects. Then the simple effect of the column variable, the treatment condition, was tested. The
### TABLE VII

SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR MEASURES OF INDIRECT TEACHER BEHAVIOR

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>F-ratio</td>
</tr>
<tr>
<td>FAIR Variables 1 - 4</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Combined</td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>23.1469</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOP</td>
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<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>23.2813</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
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<td></td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td>--</td>
<td>1.3663</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
F-ratio of 0.01 did not reach the prescribed significance level. This finding indicates that the means of the experimental and control groups did not differ significantly.

Using the pre-test scores of these measures as the covariant in the one-way analysis of covariance, the experimental group achieved a higher mean than did the control group. However, the F-ratio of 1.58 did not reach the prescribed .05 level of significance required to reject the null hypothesis.

In the case of indirect teacher behavior, the null hypothesis of no significant differences between the experimental and control group post-test measures is retained by these findings. Neither of the independent variables, the testing or the treatment condition, significantly affected the post-test measures of indirect teaching behavior.

**Direct Teacher Behavior**

This measure was defined as the sum of variables five, six, and seven on the FAIR: gives directions, lectures, and criticizes or corrects. Table VIII presents the group means, F-ratios, and significance levels of the two-way analysis of variance and the one-way analysis of covariance.

The significance of interaction was tested first. The F-ratio of 0.45 failed to reach the prescribed significance level of .05. This finding indicates that the testing and
<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>F-ratio</td>
</tr>
<tr>
<td>FAIR Variables 5-7</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Combined</td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>51.5180</td>
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</tr>
<tr>
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<td>WOP</td>
<td>50.9515</td>
<td>0.0073</td>
</tr>
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<td>Column (Treatment)</td>
<td>E</td>
<td>53.9633</td>
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</tr>
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<td></td>
<td>C</td>
<td>48.5462</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.4547</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
treatment conditions are independent of each other in this case. The simple row effects, the presence of pre-testing, were tested next. The F-ratio of 0.01 was not significant at the prescribed .05 level indicating that participating in the pre-testing did not affect the post-test scores in a significant way. The simple column effects, the treatment condition, were then tested. The F-ratio of 1.52 was not significant at the prescribed .05 level. The higher mean of the experimental treatment groups was contrary to the original expectation in the study.

When the E-1 and C-1 groups' pre-test scores were used as a covariant to equate the groups initially, the adjusted post-test means were in the expected direction, i.e., the control group had a higher mean on the measure of direct teacher behavior. However, the F-ratio of 0.05 did not reach the .05 level necessary to reject the null hypothesis of no significant differences.

These findings indicate that neither of the independent variables significantly affected the criterion measure of direct teacher behavior. As a result, the null hypothesis of no significant differences between the experimental treatment and control treatment group means is retained.
Hypothesis III

This hypothesis was restated in null form for statistical testing. As such, Hypothesis III states that the experimental treatment groups will not differ significantly from the control treatment groups on the FAIR post-test measures of desirable pupil behavior, of less desirable pupil behavior, or of undesirable pupil behavior.

**Desirable Pupil Behavior**

This measure was defined as the sum of the following FAIR variables: volunteer responses, enthusiastic responses, and silent work. Table IX presents the means, F-ratios, and probability levels of this combination of variables as a measure of desirable pupil behavior.

In the two-way analysis of variance, the significance of interaction was tested first. The obtained F-ratio of 0.88 failed to reach the .05 level of significance. The significance of the row variable, the presence of pre-testing, was tested next. Although the subjects who had been pre-tested obtained a higher mean, the F-ratio of 0.34 was not significant at the .05 level. Following this, the effect of the column variable, the treatment condition, was tested. Here the control subjects achieved a higher mean; although the resulting F-ratio of 1.15 did not reach the prescribed .05 level necessary to reject the null hypothesis.
TABLE IX
SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR MEASURES OF DESIRABLE PUPIL BEHAVIOR

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>F-ratio</td>
</tr>
<tr>
<td>FAIR Variables 8, 9, 11 Combined</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
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<td>0.3424</td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>38.8396</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>37.5652</td>
<td>1.1457</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>42.8713</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.8779</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
The one-way analysis of covariance produced similar results. Although the adjusted mean of the control group subjects was higher, the F-ratio of 1.56 was not significant at the .05 level.

These findings indicate that neither the testing condition nor the treatment condition significantly affect the post-test scores of the subjects on the FAIR measures of desirable pupil behavior.

**Less Desirable Pupil Behavior**

This variable was defined as the FAIR Routine Response category. Table X presents the data from which the findings are derived: the means, F-ratios, and the probability levels.

In the two-way analysis of variance, the significance of interaction was tested first. The F-ratio of 2.43 was not significant at the .05 level prescribed to reject the null hypothesis. This finding indicated that the effects of testing and the treatment condition are independent of each other. Both the row variable, the testing condition, and the column variable, the treatment condition, analyses produced F-ratios which failed to reach the .05 level of significance needed to reject the null hypothesis.

The one-way analysis of covariance was computed next. This statistical treatment of the data revealed that
TABLE X
SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR MEASURES OF LESS DESIRABLE PUPIL BEHAVIOR

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>F-ratio</td>
</tr>
<tr>
<td>FAIR Variable 10</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>18.9711</td>
<td>0.5732</td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>20.9708</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>19.6913</td>
<td>0.0276</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>20.3085</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>2.4286</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCOV for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
experimental treatment group, E-1, achieved a higher adjusted mean score than did the control treatment group, C-1. However, the F-ratio of 1.20 failed to reach the .05 level of significance required to reject the null hypothesis of no significant differences.

These findings indicate that neither the testing condition nor the treatment condition can be expected to significantly affect this aspect of the subjects' teaching behavior under the conditions described in this study. The amount of less desirable pupil behavior, routine responses, was not significantly increased or decreased by the testing or by the treatment condition.

**Undesirable Pupil Behavior**

Behavior of pupils which indicates that they are bored or inattentive is defined as undesirable pupil behavior. The FAIR category H variable was used as the measure of this behavior. Table XI presents the group means, F-ratios, and probability levels of the post-test score analyses of this variable.

The significance of interaction was tested first in the two-way analysis of variance. The resulting F-ratio of 0.04 failed to reach the .05 level of significance. The simple effect of the row variable, the testing condition, was tested next. The F-ratio of 1.09 also failed to reach the .05 level of significance. Then the column variable,
### TABLE XI

**SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR MEASURES OF UNDESIRABLE PUPIL BEHAVIOR**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
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<td>F-ratio</td>
</tr>
<tr>
<td>FAIR Variable 12</td>
<td>E-1</td>
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<td>--</td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>0.8667</td>
<td>1.0877</td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>1.5563</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>-.8630</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>1.5745</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.0392</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
the treatment condition, was tested. As before, the F-ratio failed to reach the .05 level necessary to reject the null hypothesis.

Following this, the one-way analysis of covariance was computed between the E-1 and the C-1 group post-test scores as the criterion measure and their pre-test scores as the covariant. The F-ratio of 2.29 failed to reach the .05 level of significance.

On the basis of these analyses, the null hypothesis cannot be rejected in the case of undesirable pupil behavior. Neither the testing condition nor the treatment condition significantly affected this type of pupil behavior under the conditions described in this study.

In all three cases, desirable pupil behavior, less desirable pupil behavior, and undesirable pupil behavior, the analyses of variance and of covariance failed to produce F-ratios great enough to reach the prescribed level of significance necessary to reject the null hypothesis. On this basis, the null is retained.

Hypothesis IV

This hypothesis was restated in null form for statistical testing. As such, Hypothesis IV states that the experimental treatment groups will not differ significantly
from the control treatment groups on the FAIR post-test measures of teacher behavior or of pupil behavior.

**Teacher Behavior**

In this study, teacher behavior was defined as the sum of the first seven variables on the FAIR. Table XII presents the group means, F-ratios, and probability levels of these measures of teacher behavior. The significance of interaction was tested first in the two-way analysis of variance. The F-ratio of $0.01$ failed to reach the $.05$ significance level. The simple effect of the testing condition, the row variable, was tested next. The resulting F-ratio of $0.00$ failed to reach the $.05$ level of significance. The simple effect of the treatment condition, the column variable, was then tested. The F-ratio of $1.39$ also failed to reach the prescribed $.05$ level necessary to reject the null hypothesis.

In the one-way analysis of covariance, the F-ratio of $0.31$ also failed to reach the $.05$ level. On the basis of these analyses, the null hypothesis is not rejected under the conditions described in this study.

**Pupil Behavior**

In this study, pupil behavior was defined as the sum of variables eight through twelve on the FAIR. Table XIII presents the group means, F-ratios, and probability levels
TABLE XII

SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR MEASURES OF ALL TEACHER BEHAVIOR

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>F-ratio</td>
</tr>
<tr>
<td>FAIR, Variables 1-7</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Combined</td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>74.6649</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>74.6100</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>77.2446</td>
<td>0.0007</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>72.0840</td>
<td>1.3875</td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.0088</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
**TABLE XIII**

**SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS FOR MEASURES OF ALL PUPIL BEHAVIOR**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance**</th>
<th>Analysis of Covariance***</th>
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<tr>
<td></td>
<td>Group</td>
<td>Mean</td>
<td>F-ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAIR, Variables 8-12</td>
<td>E-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Combined</td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>61.5849</td>
<td>0.0084</td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>61.3673</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>58.1228</td>
<td>2.0963</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>64.7511</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.0458</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

***1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
of the analyses computed. The two-way analysis of variance test for interaction revealed no significant interaction. This finding indicates that the effects of these two variables were independent of each other in this study. Neither the row variable, the testing condition, nor the column variable, the treatment condition, analyses revealed significant differences among the four groups.

The one-way analysis of covariance was computed next. The resulting F-ratio of 0.59 failed to reach the .05 level necessary to reject the null hypothesis. On the basis of these statistics, neither the testing condition nor the treatment condition significantly affected the FAIR measures of pupil behavior under the conditions outlined in this study.

The null hypothesis was not rejected by either the two-way analysis of variance or by the one-way analysis of covariance. On this basis, the predicted lower score of teacher behavior and the higher score of pupil behavior, the original hypothesis, cannot be accepted as tenable under the conditions described in this study.

Non-Hypothesized Data

The data presented below provide additional findings of this study. These data were not relevant to any of the hypotheses which were formulated and tested. They are
presented below as an ancillary part of the study and are intended to give additional insight into the total context in which the study was conducted.

**Time Utilization**

A summary of the number of hours devoted to the various types of activities in the teacher laboratory course was submitted to the coordinator at the completion of the course. These reported activities were classified according to the following variables: science classes, mathematics classes, social studies classes, other classes, independent study, practicum-observation experiences, and Florida Modules.

A one-way analysis of variance was computed for each of the variables to determine whether any of the groups differed significantly from the other groups in the way in which they spent time during the course. Table XIV presents the means, F-ratios, and probability levels of these analyses. Significant differences were detected on variable two, mathematics classes, and variable seven, Florida Modules. This finding indicates that two or more groups differed significantly in the way time was utilized.

The Scheffé Test for all possible comparisons was then computed for variable two and for variable seven. This analysis failed to produce an F-ratio large enough to
TABLE XIV

SUMMARY OF GROUP MEANS, F-RATIOS, AND PROBABILITY LEVELS
FOR ANALYSIS OF VARIANCE OF TIME UTILIZATION

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>F-ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Classes</td>
<td>E-1</td>
<td>7.08696</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>E-2</td>
<td>9.00000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>7.36364</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-2</td>
<td>7.60000</td>
<td>1.5660</td>
<td>.20</td>
</tr>
<tr>
<td>Mathematics Classes</td>
<td>E-1</td>
<td>8.26087</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>E-2</td>
<td>6.21739</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>8.95455</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-2</td>
<td>9.44000</td>
<td>2.8729</td>
<td>.04*</td>
</tr>
<tr>
<td>Social Studies Classes</td>
<td>E-1</td>
<td>13.60870</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>E-2</td>
<td>10.30435</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>12.81818</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-2</td>
<td>12.56000</td>
<td>0.8542</td>
<td>.47</td>
</tr>
<tr>
<td>Other Classes</td>
<td>E-1</td>
<td>54.69565</td>
<td></td>
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<tr>
<td></td>
<td>E-2</td>
<td>51.10870</td>
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<tr>
<td></td>
<td>C-1</td>
<td>42.97727</td>
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</tr>
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<td></td>
<td>C-2</td>
<td>53.44000</td>
<td>2.5484</td>
<td>.06</td>
</tr>
<tr>
<td>Independent Study</td>
<td>E-1</td>
<td>50.04348</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>E-2</td>
<td>52.10870</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>51.04545</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-2</td>
<td>53.98000</td>
<td>0.1735</td>
<td>.91</td>
</tr>
<tr>
<td>Practicum-Observation</td>
<td>E-1</td>
<td>33.21739</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>E-2</td>
<td>39.63043</td>
<td></td>
<td></td>
</tr>
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<td></td>
<td>C-1</td>
<td>38.56818</td>
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<td></td>
</tr>
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<td></td>
<td>C-2</td>
<td>36.80000</td>
<td>0.5642</td>
<td>.64</td>
</tr>
<tr>
<td>Florida Modules</td>
<td>E-1</td>
<td>22.71739</td>
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</tr>
<tr>
<td></td>
<td>E-2</td>
<td>22.15217</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-1</td>
<td>0.00000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C-2</td>
<td>0.00000</td>
<td>385.1173</td>
<td>.00*</td>
</tr>
</tbody>
</table>

*Significant at or beyond the .05 level.
reject the null hypothesis in the case of variable two. However, since the Scheffé Test is known to be conservative, a visual inspection of the data was undertaken (1, p. 241). The greatest F-ratio occurred between the E-2 and C-2 groups in the Scheffé Test. The means of these two groups also revealed a greater difference than among any other two groups. It is possible that the significant F-ratio in the analysis of variance was due to the difference between these two groups. The C-2 group apparently spent more time in mathematics classes than did the E-2 group.

The Scheffé Test was then computed for variable seven, Florida Modules. As expected, both of the experimental groups differed significantly from both of the control groups since the control subjects did not participate in these experiences. The experimental treatment groups reported spending a mean of just over twenty-two hours on the Florida Modules during the treatment period.

**General Mental Health**

Table XV presents the group means, F-ratios and probability levels of the measures of general mental health. In the two-way analysis of variance, the test for interaction was performed first. The F-ratio of 0.31 failed to reach the required level of significance indicating that the effects of pre-testing and the experimental treatment are
<table>
<thead>
<tr>
<th>Variable</th>
<th>Group*</th>
<th>Analysis of Variance***</th>
<th>Analysis of Covariance****</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean**</td>
<td>F-ratio</td>
</tr>
<tr>
<td>General Mental Health</td>
<td>E-1</td>
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<tr>
<td></td>
<td>C-1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Row (Testing)</td>
<td>W/P</td>
<td>0.0857</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WOP</td>
<td>-0.0804</td>
<td></td>
</tr>
<tr>
<td>Column (Treatment)</td>
<td>E</td>
<td>0.2527</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>-0.2474</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>--</td>
<td>0.3124</td>
</tr>
</tbody>
</table>

*E-1 = experimental treatment group with pre-testing, C-1 = control treatment group with pre-testing, W/P = all subjects with pre-testing, WOP = all subjects without pre-testing, E = all subjects receiving the experimental treatment, and C = all subjects receiving the control treatment.

**Based on transformed standard scores with mean of 0 and standard deviation of 1.

***2-way ANOV for post-test scores of E-1, E-2, C-1, and C-2.

****1-way ANOCov for post-test scores of E-1 and C-1 with pre-test scores as the covariant.
independent of each other. Next the simple effect of the row variable, the presence of pre-testing, was tested. The F-ratio of 1.27 failed to reach the required level to reject the null hypothesis of no significant differences. Following this, the simple effect of the column variable, the treatment condition, was tested. The F-ratio of 13.84 reached the level of significance necessary to reject the null hypothesis.

In the one-way analysis of covariance, using the pre-test scores of the E-1 and C-1 groups as covariants, the results obtained indicate that the mean scores of the experimental treatment group are significantly higher at the .00 level than the mean scores of the control treatment group on the measures of general mental health.

These findings indicate that the testing condition did not have a significant effect on the measures of general mental health. However, the experimental treatment could have positively affected the post-test scores of the subjects in the experimental treatment group.

Discussion of Findings

The data indicate that the subjects in the experimental treatment groups had scores on the personality measures which were significantly different from those of the control treatment groups in only two hypothesized instances, i.e.,
identification with the teaching role and identification with the teaching profession. In attempting to account for the differences in these two measures while no significant differences were found among any of the other measures, an examination of the measures and instruments indicates a possible explanation. All of the personality measures relating to the hypothesis which yielded non-significant differences were global measures, i.e., self-confidence and attitudes toward self, children, and others. The two measures which did reveal significant differences were specifically related to teaching and the teaching profession. The theoretical position of this study included the proposition that global attitudes and personality constructs are not likely to be affected to any great extent by short-term training experiences but that specific attitudes could be changed by them. To the extent that this argument is plausible, the theoretical position of this study received support.

Another possible explanation for the differences in findings among the personality measures is the fact that different types of instruments were used to measure the attitudes and self-perceptions. When the major or only contributing measures were The Peck-Veldman One-Word Sentence Completion Test (OWSC) and/or The Bown Self-Report Inventory (SRI), the differences among the groups were not
significant. However, when The Veldman Directed Imagination Test (DI) provided one-half of the measure, the differences turned out to be significant in both instances. In this study, as in other studies conducted at North Texas State University and at The University of Texas at Austin, the data from the SRI and OWSC correspond rather closely. The DI is the only instrument which attempts to elicit only data related to the school setting and teaching. Although it is a projective technique, the specific nature of this instrument enables it to detect differences related to specific attitudes toward the profession and the teaching role more readily. If this explanation is accepted, the theoretical position of this study receives additional support.

A third explanation is that the DI, which apparently influences the results to a great extent, was an invalid and unreliable measure in this study. While great care was exercised to apply the ratings described in the manual for scoring as accurately as possible, the fact that only one rater did the scoring could account for the differences. This explanation does not lend support to the theoretical position of the study.

The general mental health post-test scores of the experimental treatment groups, as reported in the section
on non-hypothesized data, were also significantly different from those of the control treatment groups. This finding is puzzling. General mental health is a global concept; yet significant differences were found. The DI contributed only one-third toward the measure of this personality trait; yet the differences were significant beyond the .01 level while in the identification with the teaching profession measure the DI contributed one-half and the differences were significant at the .01 level. If the DI is not discriminating properly or measuring accurately, these significance levels should be reversed.

The most reasonable explanation is that the DI was an effective measure of specific attitudes and personality factors related to the professional self-perceptions of the subjects in this study. On this basis, it is concluded that the experimental findings provide limited support for the theoretical position of this study.

The data used in the analysis of time utilization indicate that the C-2 group spent 3.2 hours more in mathematics classes than did the E-2 group, neither group receiving the pre-tests. This finding is also difficult to explain. It is purely a matter of conjecture; however, the fact that several of the C-2 group members were enthusiastic about the mathematics classes and several of the E-2 group
members were unenthusiastic about the experimental treatment could account for this difference.

None of the groups differed significantly from each other on any of the measures of teacher or pupil behavior. While observing the experimental treatment groups in operation during the treatment period, it was noted that time was too limited to provide each subject with a microteaching experience during each of the five weeks of the experimental treatment period. Those who were unable to schedule a microteach each week were encouraged to practice the skills during their practicum experiences. There is no way of knowing how faithfully these encouragements were implemented. The experimental treatment period was apparently too short and the number of opportunities to practice the skills was too limited to make a significant difference in the teacher trainees' behavior or in the pupil behavior elicited by the teacher trainees.

The findings related to the measures of teaching behavior do not support the theoretical position of the study as presented. Although there were no significant differences, a perusal of the videotaped data reveals a possible trend. The amount of teacher behavior was greater in the experimental subjects than in the control subjects; the same findings being true of the indirect behavior of the subjects. It is reasonable to view this phenomenon as
limited evidence that the experimental treatment groups became more aware of teacher behavior as a result of the treatment and, consequently, exhibited more behavior which was coded as teaching behavior than the control treatment groups. The type of teaching, indirect teacher behavior, was that which was suggested as desirable under many classroom conditions. If this explanation is, in fact, a correct one, then additional time spent in the continued practicing of the skills could produce the results which were hypothesized.

The Solomon Four-Group Design was chosen for this study because interaction between the pre-testing and the experimental treatment was considered a distinct possibility. None of the two-way analyses of variance detected a significant interaction effect. The portion of the pre-testing which was suspected as a possible contributor to interaction was the videotaping of the seven-minute lesson. Table XIV presents the mean number of hours reported by each treatment group in each of seven types of experiences. The mean reported time for practicum-observation experiences is from thirty-three to thirty-nine hours for groups E-1 and E-2 respectively. This is more time than was spent on the experimental treatment itself. With so much time spent with children in classrooms, the effects of the exposure to them in the pre-testing were apparently
minimized. Consequently, the interaction effects were not significant.

Chapter Summary

Chapter IV presents the findings of this study. Each of the four hypotheses was restated in null form for statistical analysis. The two-way analysis of variance of the post-test measures was computed first. This was followed by the one-way analysis of covariance between groups E-1 and C-1 using the post-test scores as the criterion measure and the pre-test scores as the covariant.

Hypothesis I was partially rejected and partially retained. No significant differences were found among any of the four groups on the measures of self-confidence, attitudes toward self, attitudes toward children, and attitudes toward others. The experimental treatment groups were found to have significantly higher scores than the control treatment groups on the measures of identification with the teaching role and identification with the teaching profession.

Hypotheses II, III, and IV, stated in null form, were all retained. The experimental and control treatment groups did not differ significantly on the FAIR measures of indirect teacher behavior, direct teacher behavior, desirable pupil behavior, less desirable pupil behavior,
undesirable pupil behavior, teacher behavior, and pupil behavior.
CHAPTER BIBLIOGRAPHY

Summary

Many beginning elementary teachers are poorly prepared to begin a career in teaching because they lack the professional self-confidence and skills necessary to teach effectively. This study assessed the effects of practicing self-selected teaching skills on measures of personality and teaching behavior of students enrolled in an individualized-personalized program of teacher education.

The broad theoretical basis for the study was the phenomenological psychology of Combs and Snygg. Applied to the teacher training setting, this theory suggests that attitudes and self-perceptions affect behavior. Conversely, experiences which the individual interprets as successful and self-enhancing and experiences which the individual interprets as unsuccessful and self-defeating also affect the self-perceptions and attitudes of that individual. The theory further suggests that teacher trainees are likely to select experiences which result in more positive self-perceptions when they are allowed to practice teaching skills based on their own perceived needs. These more
positive self-perceptions, in turn, lead to greater success in teaching behavior.

A Solomon Four-Group Design was employed to test the theoretical position and the four hypotheses resulting from this theory. Ninety-three senior level elementary education majors were randomly assigned to four treatment groups and treatment conditions through a drawing process. The groups were designated E-1 (N=23), E-2 (N=23), C-1 (N=22), and C-2 (N=25).

Pre-tests consisting of The Bown Self-Report Inventory, The Peck-Veldman One-Word Sentence Completion Test, The Veldman Directed Imagination Test, and a seven-minute videotaped lesson were administered to the E-1 and C-1 groups. The same tests were administered as post-tests to all of the subjects. The videotaped lessons were later coded by using a modification of The Fuller Affective Interaction Record.

The experimental treatment consisted of a minimum of twenty hours of instruction and practicing of self-selected teaching skills with peers and/or elementary pupils. The Florida B2 Modules for Individualizing Teacher Education Materials provided explanations of the teaching skills and suggested experiences designed to achieve mastery of the skills. The control treatment consisted of self-selected classes in the areas of science methods, mathematics methods,
social studies methods, and other classes relating to teaching in the elementary school; independent study; and practicum-observation experiences. Subjects in the E-1 and E-2 groups participated in both of the treatments while subjects in the C-1 and C-2 groups participated only in the control treatment.

The data from the pre-tests and post-tests were analyzed by computer by applying the two-way analysis of variance and the one-way analysis of covariance. Pre-testing and the experimental treatment were the independent variables and the post-test scores of the subjects in all four groups were the criterion measures which were tested via the two-way analysis. The pre-test scores of the E-1 and C-1 subjects were the covariant and the post-test scores were the criterion measures in the one-way analysis of covariance. The .05 level of significance was selected as necessary to reject the null hypothesis.

Findings

From the analysis of the statistical data presented in this study, the following findings were apparent:

1. The experimental treatment experiences were significantly more effective than the control treatment experiences in helping senior level teacher trainees to identify
with the teaching role and to identify with the teaching profession.

2. There were no significant differences between the experimental treatment experiences and the control treatment experiences in helping senior level teacher trainees to achieve greater self-confidence or to improve their attitudes toward self, children, and others.

3. There were no significant differences between the experimental treatment experiences and the control treatment experiences in helping senior level teacher trainees to decrease the classroom interaction coded as teacher behavior, to decrease the classroom interaction coded as direct teacher behavior, or to increase the classroom interaction coded as indirect teacher behavior.

4. There were no significant differences between the experimental treatment experiences and the control treatment experiences in helping senior level teacher trainees to increase the classroom interaction coded as pupil behavior, to increase the classroom interaction coded as desirable pupil behavior, to decrease the classroom interaction coded as less desirable pupil behavior, or to decrease the classroom interaction coded as undesirable pupil behavior.

5. There were no significant interaction effects between the pre-testing and the experimental treatment on any
of the measures of personality, of teacher behavior, or of pupil behavior.

Conclusions

Based on the findings of this investigation, the following conclusions seemed justified:

1. Training experiences of short duration for elementary education majors, e.g., eight weeks, similar to the experimental treatment described in this study can be expected to result in significant positive changes in specific, narrowly defined personality factors such as identification with the teaching role and identification with the teaching profession.

2. Training experiences of short duration for elementary education majors, e.g., eight weeks, similar to the experimental treatment described in this study cannot be expected to result in significant positive changes in global or broadly defined personality factors such as self-confidence and attitudes toward self, children, and others.

3. Training experiences of short duration for elementary education majors, e.g., eight weeks, similar to the experimental treatment described in this study cannot be expected to result in a significant decrease in classroom interaction codable as teacher behavior, or a significant decrease in classroom interaction codable as direct teacher
behavior, or a significant increase in classroom interaction codable as indirect teacher behavior.

4. Training experiences of short duration for elementary education majors, e.g., eight weeks, similar to the experimental treatment described in this study cannot be expected to significantly increase classroom interaction codable as pupil behavior, to significantly increase classroom interaction codable as desirable pupil behavior, to significantly decrease classroom interaction codable as less desirable pupil behavior, or to significantly decrease classroom interaction codable as undesirable pupil behavior.

Based on personal observations in the conduct of this investigation, not on any statistical data, the following conclusions were formulated:

1. In training programs offering a variety of experiences and continuing for only a short period of time, students generally prefer to participate in a number of different experiences rather than to work toward mastery on one teaching skill.

2. In training programs offering self-selection of experiences to students unaccustomed to making these choices, the initial activities are more likely to be selected as a test of the freedom to make selections than as a responsible choice to meet self-perceived needs. However, selections made later in the program meet the needs
of the student more efficiently and effectively than when learning experiences are prescribed.

Recommendations

On the basis of the findings, conclusions, and personal observations of this study, the ensuing recommendations are tendered:

1. The findings and conclusions indicated that the experimental treatment was effective in increasing the subjects' identification with the teaching role and identification with the teaching profession in a program of individualized experiences in elementary teacher training. Therefore, it is recommended that these experiences continue to be offered as options in programs where self-selection of classes, independent study, and practicum-observation are permitted and the objectives of the program include an increase in identification with the teaching role and the teaching profession.

2. The instruments used to gather personality data were limited in their ability to measure these factors in a reliable and valid manner. It is recommended that further study be given to a determination of the best combination of variables in gathering relevant personality data or to the development of new instruments which reliably and accurately measure the specific perceptions of self and others thought to relate to effective teaching.
3. This study was concerned with determining the effects of self-selected experiences on measures of personality and teaching behavior. Further research is recommended in determining the effects of other types of experiences on these same measures.

4. Time was a limitation in this study. None of the teaching behaviors changed significantly in the experimental period of six weeks. Further research is needed to determine whether the practicing of self-selected teaching skills over a longer period of time results in significant changes of teacher or pupil behavior in the desired direction.

5. The post-tests were administered immediately upon the completion of the treatment period in this study. Further research is needed to determine the long term effects of the treatments described. The delayed effects of greater identification with the teaching role and profession should be the specific focus of this investigation.

6. The immediate and the long term effects of self-selected experiences should be compared with those of prescribed experiences in teacher training programs for elementary education majors.
APPENDIX A

THE BOWN SELF-REPORT INVENTORY (SRI)
SELF-REPORT INVENTORY
Form R-3

O L I V E R  H. B O W N
THE UNIVERSITY OF TEXAS AT AUSTIN

Name ................................................................. Sex .................
(Print) Last First Middle

Course and Section ........................................ Date ..................

After filling in the information requested above, please turn immediately to page 4 and read directions carefully.

This instrument was developed and refined under the auspices of the Mental Health in Teacher Education Demonstration-Research Project supported by the National Institute of Mental Health (Grant 2M-6635) and the University of Texas.
1. The way I get along with my friends is extremely important to me.
2. I resist getting down to work and often have to drive myself to get it done.
3. In their relationship with me, my parents were always basically kind, considerate and understanding.
4. I really look forward to the time when I will be settled down to my life’s work.
5. I have almost always resented people who were in a position to tell me what to do.
6. I’m very comfortable and happy when I am with children.
7. I don’t seem to have very much basic respect for myself.
8. I live in accordance with the idea that “It is better to have loved and lost than never to have loved at all.”
9. In the past, I have usually avoided working any harder than was necessary to get by.
10. I look forward to living and working with other people as an important and influential part of their lives.
11. Very often I have envied other people who have had so much more fun with their parents than I.
12. I feel confident that one day I’ll be successfully engaged in what I’m really cut out to do.
13. I feel uncomfortable and artificial in the presence of people who are a good deal older than I.
14. It has always been easy for me to express affection toward young children.
15. I feel sour and pessimistic about life in general.
16. One thing I just can’t stand is uncertainty.
17. I used to wish very often that my parents and I could be much closer.
18. I really dread the thought of finishing school and settling down to a lifetime of hard, steady work and increased responsibility for myself and others.
19. I am able to relate to children quite easily, and this is very important to me.
20. Thinking back, in a good many ways I don’t think I have liked myself very well.
21. One of the most important things to me about any job I hold in the future is having a good relationship with my boss.
22. The idea of death has always made me feel uneasy, helpless and a little futile.
23. I like people very much.
24. I have always maintained a good healthy balance between work and play.

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<thead>
<tr>
<th></th>
<th>Like me</th>
<th>Unlike me</th>
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**SOCWPH**
25. Looking ahead a few years, I don't think that I will be the kind of person who would get much personal satisfaction out of teaching children of elementary school age.

26. In almost every respect, I'm very glad to be the person I am.

27. My parents and I may get along all right on the surface, but down deep I wonder if we even know each other.

28. While I can't prove it, I'm willing to bet that I'm going to become a more and more happy and significant person.

29. I do my work just to get it over with rather than because I get real satisfaction from doing it.

30. I've always been fascinated with getting to know people whether they were good, bad, or indifferent.

31. I have resented very much having to do things that were expected of me.

32. I feel that satisfaction and dissatisfaction, joy and suffering, life and death are all meaningful parts of a process which I may not fully understand but by which I am deeply moved.

33. When I think about the kind of person that I have been in the past, it doesn't make me feel very happy or proud.

34. I really enjoy getting to know people who are in positions of authority.

35. I used to regard young children as a pain in the neck.

36. I'm quite consistent in tackling the work I need to do rather than putting it off until the last minute.

37. The fact that the people whom I love most will someday die will always seem to me to be cruel and unfair.

38. People have not been as important to me as they are to most others in determining how satisfied and secure I have felt.

39. I feel confident that in the really important ways, I will be a good parent.

40. Doing a good job in anything that I undertake is very important to my sense of well-being.

41. My parents and I have a great deal of mutual respect, faith, and confidence in one another.

42. I'd give a good deal to be very different than I am.

43. I think I will always have close, rich, full relationships with a good many people.

44. I suppose there will always be someone to whom I will be responsible in one way or another, but I don't expect that I will ever like it.

45. I have always been very fond of younger children.

46. I am very happy with my present relationship with my parents.

47. I don't really expect that I will ever be close friends with many people my own age.

48. The sheer joy of being alive has often been a compelling force in my life.
DIRECTIONS

Please print your name and provide the other information requested on the cover of this booklet.

On pages 2 and 3, there are forty-eight statements which express various ideas, feelings, and reactions. You are asked to rate each statement in accordance with how well it expresses your own thoughts or feelings. There are no right or wrong answers. The usefulness of the instrument depends entirely on the extent to which you indicate how you actually think or feel rather than how you would like to feel or how you think you should feel. This inventory is being administered for research purposes, and your individual responses will be held in strict confidence.

Please record your rating of each item by placing an X in one of the boxes following each statement. There are five alternative responses indicating the extent to which the statement expresses what you actually think or feel:

The statement expresses:

A. Exactly what I think or feel or what I think or feel almost all the time.
B. Primarily what I think or feel or what I think or feel most of the time.
C. Something about which I do not particularly think or feel one way or the other or something I think or feel about half the time.
D. Something which is almost the opposite of what I think or feel or something which I think or feel very seldom.
E. Exactly what I do not think or feel or what I think or feel almost never.

Please work rapidly and use your first impression as a basis for your response. Do not omit any item.
APPENDIX B

THE PECK-VELDMAN ONE-WORD SENTENCE COMPLETION TEST (OWSC)
ONE-WORD SENTENCE COMPLETION
Form 4-A
ROBERT F. PECK and DONALD J. VELDMAN
THE UNIVERSITY OF TEXAS

Name.......................................................................................... Date

Course & Section........................................................................... Age Sex

Here are the beginnings of some sentences. Simply complete each sentence with the first word that comes to mind. Use only one word to complete each item. Try to avoid cliches, as much as possible. There are no right or wrong answers. If you can't think of a word to finish a sentence right away, skip it and come back later to finish the one you have not completed. When you finish, check your answers to be sure you have used no more than one word for each. This instrument is being administered for the purposes of research and/or individual guidance, and your responses to individual items will be held in strict professional confidence.

1. .............................................................................. makes me happy.

2. Other people think that I am ..........................................................

3. My childhood was ........................................................................

4. Most people can ........................................................................ better than I.

5. Disciplining children is ............................................................

6. I have been ........................................................................... in my work.

7. My favorite teacher was particularly ........................................

8. I ........................................................................... when put under pressure.

9. I feel tired ..............................................................................

10. ........................................................................... is exciting.

11. I find it hardest to stop my habit of ........................................

12. Bosses are ...........................................................................

13. Most people don't know that I am really ................................


15. The average person is ............................................................

16. I can't stand children who ........................................................

17. I feel ........................................................................... when others do better.
18. The typical teacher is.

19. It would be.___.to give me authority.

20. When they avoid me, I try to.___.them.

21. makes me feel proud.

22. Darkness is.___.

23. My mind is.___.

24. Now and then I feel very.___.

25. My father.___.me.

26. Many girls my age are.___.

27. The children of___.parents are lucky.

28. An ambitious woman is often.___.

29. people make the worst teachers.

30. My.___.sometimes holds me back.

31. My___.sometimes gets me into trouble.

32. feels good.

33. Walking barefoot in the mud would be.___.

34. Closer and closer.___.comes.

35. Secretly, I often dream of.___.

36. My mother.___.me.

37. Being with other people.___.me.

38. Explaining something to a child is.___.

39. I see___.when I look ahead.

40. The best part of teaching would be the.___.

41. When I need help, I usually depend on.___.

42. I suffer most from.___. 
43. I feel .................................................................................. when I see hills.

44. Most men are........................................................................

45. God is ................................................................................

46. If only my parents were more...................................................

47. Men often ............................................................................ women.

48. Women often ....................................................................... men.

49. What I want to do most is....................................................... 

50. “..........................................................................................”, she answered.

51. ......................................................................................... is the easiest way to get money.

52. Nothing is more frustrating than............................................. 

53. ......................................................................................... is the hope of the world.

54. If I only had ...........................................................................

55. I feel ................................................................................... when I think of myself as a woman.

56. My father's chief fault is his........................................................................

57. Children are happiest when they can be..........................................

58. I work hardest for ....................................................................

59. Teachers have a lot of................................................................

60. It is so depressing to be................................................................

61. I hope I never...........................................................................

62. Firm control leads to ................................................................

63. My mother's chief fault is her.....................................................

64. ............................................................................................... makes me furious.

65. My.......................................................................................... is my best quality.

66. Most education courses are.....................................................

67. ............................................................................................... is disgusting.
<table>
<thead>
<tr>
<th>Number</th>
<th>Sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>68.</td>
<td>My body is ..................................................</td>
</tr>
<tr>
<td>69.</td>
<td>Someday I plan to be ........................................</td>
</tr>
<tr>
<td>70.</td>
<td>My father's best quality is his ................................</td>
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<tr>
<td>71.</td>
<td>I used to be crazy to think I was ................................</td>
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<tr>
<td>72.</td>
<td>Until recently I wanted to be ......................................</td>
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<tr>
<td>73.</td>
<td>My mother's best quality is her .....................................</td>
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<tr>
<td>74.</td>
<td>When I let go, I .....................................................</td>
</tr>
<tr>
<td>75.</td>
<td>Ten years from now I will be ........................................</td>
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<tr>
<td>76.</td>
<td>................................................................. is a sign of strength.</td>
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<tr>
<td>77.</td>
<td>If I were a child again, I would ..................................... more than I did.</td>
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<tr>
<td>78.</td>
<td>I used to be ..........................................................</td>
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<tr>
<td>79.</td>
<td>I wish men were more ................................................</td>
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<tr>
<td>80.</td>
<td>Home is .......................................................................</td>
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<tr>
<td>81.</td>
<td>When an animal is wild, it is ...........................................</td>
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<td>82.</td>
<td>The................................................................. quivered.</td>
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<tr>
<td>83.</td>
<td>The color of Saturday night is .........................................</td>
</tr>
<tr>
<td>84.</td>
<td>I will probably live to the age of .................................</td>
</tr>
<tr>
<td>85.</td>
<td>........................................................................ is the best measure of success.</td>
</tr>
<tr>
<td>86.</td>
<td>I am ................................................................. about who I am and where I am going.</td>
</tr>
<tr>
<td>87.</td>
<td>I don't like to think about ...............................................</td>
</tr>
<tr>
<td>88.</td>
<td>The opposite of fun is .......................................................</td>
</tr>
<tr>
<td>89.</td>
<td>Failure is usually due to ................................................</td>
</tr>
<tr>
<td>90.</td>
<td>Real-life stories usually have ........................................... endings.</td>
</tr>
</tbody>
</table>
APPENDIX C

THE VELDMAN DIRECTED IMAGINATION TEST (DI)
Write four *fictional* stories about teachers and their experiences.
You will be given four minutes for each story.

**STORY ONE**
STORY THREE

DO NOT BEGIN STORY FOUR UNTIL TOLD TO CONTINUE.
STOP

DO NOT GO BACK TO PREVIOUS STORIES
APPENDIX D

THE FULLER AFFECTIVE INTERACTION RECORD (REVISED)

Teacher Behavior

Indirect Teacher Behavior

F Accepts feelings. Really hears and understands in a non-threatening manner. Feelings may be positive or negative. Predicting and recalling feelings are included.

N Encourages or shows warmth by speech, facial expression or bodily movement. Includes jokes that release tension but not at the expense of another individual. A smile which is discrete rather than fixed. Nodding the head or saying "good," "go on," or "uh huh." Remarks which serve as a positive reinforcer or as praise. Passing a positive judgment on an answer or another behavior. Repeating a pupil answer in a manner which indicates that it was correct and accepted.

I Accepts ideas presented by pupils. Includes paraphrasing or recalling ideas previously expressed by pupils and relating them to one another. Using the original ideas expressed by pupils.

Q Asks questions. Asking a question about content or procedure with the intent that a pupil answer. Includes any question intended to cause pupils to think or elicit their ideas with the intent that they answer. Does not include questions intended to embarrass, scold, or change pupil behavior.

Direct Teacher Behavior

D Gives directions. Any statement by the teacher giving directions, commands, or orders with which a pupil is expected to comply. Expected pupil behavior should be an observable behavior, e.g., "Write your name at the
top of the page." Also included are statements such as, "Why don't you do (this or that)?" which are obviously intended as directions to be followed.

L Lectures. Gives facts or opinions about content or procedure; expresses his own ideas. Rhetorical questions not intended to be answered are coded in this category.

C Criticizes or corrects. Any statement intended to change a pupil behavior from non-acceptable to an acceptable pattern. Statements may be hostile or benevolent. Includes statements such as, "No, that's wrong," "W-e-l-l, that's not q-u-i-t-e what I had in mind," and "STOP IT RIGHT NOW!"

Pupil Behavior

Verbal Pupil Behavior

V A verbalization initiated by a pupil (interested or without marked affect); talk by pupils which they volunteer. Includes responding to another pupil's question without being told to respond by the teacher.

E Enthusiastic or interested pupil response solicited by the teacher (positive affect). Includes only responses to teacher questions, not responses to another pupil's question.

R Routine pupil response elicited by the teacher (no affect apparent); predictable responses to teacher questions.

Non-Verbal Pupil Behavior

W Pupil response in the form of silent work such as reading, working a math problem, manipulating equipment, observing an experiment, or helping the teacher.

Negative Pupil Behavior

H Hostile, defiant, cold, bored, or inattentive pupil behavior elicited by the teacher or initiated by the pupil. Includes all verbal behavior irrelevant to the class activity, inappropriate physical behavior distracting
to other pupils or the teacher such as looking away, reading during a discussion, and playing with equipment with no apparent purpose. Also includes periods of complete disorder due to lack of leadership or loss of control by the teacher.

Silence

Silence in which apparently nothing is happening. Pupils are just sitting and waiting for the teacher to provide some direction. Does not include observing an experiment in progress to determine the outcome.

Ground Rules For Coding

1. Write the category letter designation considered most descriptive of the behavior observed during the three-second time period just prior to the sound of the bell signal.

2. Do not code words or phrases like "good," "ok," etc., which are obviously used merely as transitional noises to move on to the next thought. This includes mumbling which pupils obviously disregard.

3. Responses by several pupils simultaneously or in unison are coded as if made by one pupil.

4. When the intent of the teacher or pupils is in doubt, code the behavior on the basis of the actual statement being made by the speaker.

5. When children are manipulating equipment to discover the answer to a question and are talking at the same time, code the verbal behavior rather than the silent work if what the pupils are saying is intelligible. If no one is apparently listening or paying any attention to this "chatter," code the silent work.
APPENDIX E

TITLES OF FLORIDA B2 MODULES AND NUMBER OF EXPERIMENTAL SUBJECTS WHO REPORTED PRACTICING THE SKILLS PRESENTED IN THE MODULE

<table>
<thead>
<tr>
<th>Number of Subjects</th>
<th>Module Number</th>
<th>Module Title</th>
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</table>

**Cluster I: Teacher Aide Training**

- 3 1 Defining the Role of the Teacher Aide
- 7 2 Recognizing How Children Develop
- 2 3 Promoting Appropriate Language Patterns
- 3 4 Utilizing Phonics and Word Attack Skills
- 6 5 Demonstrating Legible Handwriting
- 6 6 Developing Map and Globe Skills
- 4 7 Using the Library
- 5 8 Constructing a Resource File
- 2 9 Preparing the Physical Environment for Learning
- 2 10 Completing State and County Forms
- 3 11 Teacher Aide Training Guide for Classroom Teachers

**Cluster II: Planning Skills for Teachers**

- 5 1 Using Behavioral Objectives
- 8 2 Designing a Learning Activity
- 3 3 Selecting an Instructional Mode
- 2 4 Planning Creative Activities for Independent Learning
- 2 5 Selecting Commercial Materials
- 2 6 Compiling and Using Instructional Games
- 4 7 Developing an Instructional Package
- 1 8 Organizing Learning Stations for the Language Arts

158
<table>
<thead>
<tr>
<th>Number of Subjects</th>
<th>Module Number</th>
<th>Module Title</th>
</tr>
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<tbody>
<tr>
<td>Cluster III: Presentation Skills for Teachers</td>
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<td>4</td>
<td>1</td>
<td>Using Examples and Illustrations</td>
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<td>Using Lecture Techniques to Present Information</td>
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<td>Using Planned Repetition</td>
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<td>Establishing Appropriate Frames of Reference</td>
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<td>11</td>
<td>5</td>
<td>Increasing Participation</td>
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<td>7</td>
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<td>Feedback</td>
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<td>Nonverbal Behavior</td>
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<td>Stimulus Variations</td>
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<td>Cluster IV: Classroom Procedures</td>
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<td>MINI-PAK For Making Assignments</td>
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<td>Monitoring In-Class Assignments</td>
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<td>Achieving Classroom Transitions</td>
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<td>Achieving Closure</td>
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<td>Classroom Management</td>
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<td>Recognizing and Obtaining Attending Behavior</td>
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<td>Set Induction</td>
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<td>Cluster V: Questioning Skills</td>
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<td>Question Upgrading Improvement Package</td>
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<td>Using High Order Questions</td>
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<td>Inducing Student-Initiated Questions</td>
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<td>Inquiry Technique: Using Probing Questions</td>
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<td>Pre-Cueing</td>
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<td>Cluster VI: Assessment</td>
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<td>Evaluating Learning and Instruction</td>
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<td>Diagnosing Arithmetic Skills</td>
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<td>Using Informal Diagnostic Tests of Reading Skills</td>
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<td>Cluster VII: Special Skills</td>
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<td>Developing an Instructional File of Art Materials, Tools, and Processes</td>
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<td>Teaching Songs and Rhythms</td>
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<td>Fostering Creativity</td>
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<td>Utilizing the Comprehensive Readiness Program</td>
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<td>Methods of Introducing and Summarizing a Unit</td>
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<td>Developing Listening Skills</td>
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<td>7</td>
<td>Utilizing Field Trips for Learning</td>
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</tbody>
</table>

|                   |               | Cluster VIII: Assessing Staff Development                          |
| 0                 | 1             | Introduction to a Diagnosis-Prescription System for Staff Development |
| 0                 | 2             | A Diagnosis-Prescription System for Staff Development              |
APPENDIX F

TITLES OF LESSONS TAUGHT AS PRE-TESTS
OF TEACHING BEHAVIOR

Kdg. - Beginning Measurement: Comparing Length (S-APA, Level A, Measuring 1)

Grade 1a - Distinguishing Between Open and Closed Curves
Grade 1b - Organizing the Sequence of Events in a Story
Grade 2a - Organizing the Sequence of Events in a Story
Grade 2b - Linear Measurement: Inches, Feet, Yards
Grade 3 - Observing Falling Objects (S-APA, Level D, Observing 18)
Grade 4 - Distinguishing Between Series and Parallel Circuits
Grade 5 - Multiplication of Negative Numbers
Grade 6 - Distinguishing Between Latitude and Longitude
APPENDIX G

TITLES OF LESSONS TAUGHT AS POST-TESTS OF TEACHING BEHAVIOR

Kdg.  - Make A Graph (SRA Math Involvement Lab, Level 1, Card 271)
   - Hidden Properties of Magnetism (Nebraska Science Curriculum Guide, Kdg. Level, Lesson 24)

Grade 1 - A "Me" Graph (SRA Math Involvement Lab, Level 2, Card 292)
   - Comparing Forces (Nebraska Science Curriculum Guide, Grade 1, Lesson 23)

Grade 2 - The Magic Number (SRA Math Involvement Lab, Level 3, Card 103)
   - Black Box Inference (Nebraska Science Curriculum Guide, Grade 2, Lesson 9)

Grade 3 - Three Sided Numbers (SRA Math Involvement Lab, Level 4, Card 84)
   - Interaction of Objects and Magnets (Nebraska Science Curriculum Guide, Grade 3, Lesson 13)

Grade 4 - Balancing Squares (SRA Math Involvement Lab, Level 5, Card 25)
   - Inferring the Path of Hidden Objects (Nebraska Science Curriculum Guide, Grade 4, Lesson 4)

Grade 5 - Rectangles from 48 (SRA Math Involvement Lab, Level 6, Card 76)
   - Measuring Velocity (Nebraska Science Curriculum Guide, Grade 5, Lesson 6)

Grade 6 - Clock Arithmetic (SRA Math Involvement Lab, Level 7, Card 127)
   - The Cartesian Diver (Hone et. al., A Sourcebook For Elementary Science, 1st Edit., Harcourt, Brace & World, Inc., p. 137)
APPENDIX H

EXPERIENCES OFFERED IN THE TEACHER LABORATORY

Science Classes

Overview of the Primary Curriculum in Science
Overview of the Intermediate Curriculum in Science
ESS? Who Needs It?
Elementary Science Study Units:
  Mystery Powders
  Colored Solutions
  Changes
  Pendulums
  Batteries and Bulbs
  Small Things
  Bones
  Kitchen Physics
  Structures
  Pattern Blocks
  Peas and Particles
  Gases and Airs
  Rocks and Charts

Mathematics Classes

Using Games and Aids to Teach Mathematics
Geometry in the Elementary School
Primes, Composites, and Integers
Selecting Appropriate Materials to Teach Mathematics
Numeration Systems
Teaching Addition and Subtraction
The Discovery Method in Teaching Mathematics
Cuisenaire Rods
Tangrams
Attribute Games and Problems
The Mathematics Laboratory
Rational Numbers
Using Mirror Cards to Teach Symmetry
Ratios, Percents, and Mathematical Sentences
Mapping
Social Studies Classes

What Simulation/Gaming Is and What It Can Do
Basic Experiences in Simulation/Gaming
Teaching Strategies in Simulation/Gaming
The Open Model Game
The Closed Model Game
The Following Simulation/Games:
  Star Power
  Ghetto
  Propaganda
  Hat in Ring
  Baldicer
  They Shoot Marbles
  Values Auction
Organizational Emphases of the National Social Studies Curriculum Projects
Developing Values Through the Social Studies
Value Clarification Techniques
History For Those Who Hate Dates
The Use of Maps, Globes, Charts, and Graphs
Trends in Contemporary Social Studies Curriculums

Other Classes

Classroom Discipline
Wood Butchery 101
Children's Art Experiences
Creative Writing in the Classroom
Lesson Planning
Creative Dramatics in the Classroom
Chalkboard Writing
The School Psychologist
Time Allotments, Facilities, and Equipment in Physical Education
Recess and Physical Education
"Extra Class" Physical Education Activities
The President's Physical Fitness Program
Safety Education
The Open Classroom
School Law and Teacher Liability
Reading in the Content Areas
Professional Services Available to Schools
Personal Money Management for Teachers
The Newspaper as a Teaching Tool
Implications of Glasser's Philosophy for Christian Teachers
Evaluating Pupil Progress
Grading and Reporting Pupil Progress
Developing Teaching Units
The Elementary School Library
Personalizing Education
Music Education Workshop
AV Equipment Operation
Drug Education in the Elementary School
Recognizing and Helping the Emotionally Disturbed Child
Teaching By Inquiry
Diagnosing Learning Difficulties
Autotelic Learning
Speech and Hearing Workshop
Using the Autoharp in the Classroom
Teaching Methods for Rhythmic Activities in the Classroom
Piaget and the Elementary School Curriculum
Orff and Kodaly Approaches to Teaching Music
The Role of the Teacher in the Learning Process
Remedial Reading
The Elementary Curriculum from the 40's to the 70's
How to Organize a School Newspaper
Teaching the Christian Faith
The Social Life of the Single Teacher
Teacher-Made and Standardized Tests
Grammar and Word Usage for Teachers
Teaching Spelling
Uses of VTR Equipment in the Elementary Classroom
Sex Education in Elementary Schools
The Dynamics of Change in the Elementary School
County Extention Services Available to Elementary Schools

Field Trips

Boy's Town, Omaha, Nebraska
Montclair School, Omaha, Nebraska
U.S. Weather Station, Lincoln, Nebraska
Montessori School, Omaha, Nebraska
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"Microteaching in Student Teacher Laboratory," School and Society, XCVI (March, 1968), 128-130.


Sadker, Myra and James M. Cooper, "What Do We Know About Microteaching?," Educational Leadership, XXIX (March, 1972), 547-551.


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Marso, Donald N. and Robert L. Reed, "Observable Changes in Student Teacher Behavior Following Field Oriented Elementary Education Programs," ED 085 395, 1971.


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Menaker and Donald L. Williams, Manual For Scoring the Test of Directed Imagina-
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Unpublished Materials

