

1-1-1970

The effects of field teaching assignments : made on the basis of the teaching behavior of the student teachers and the cooperating teachers, on the attitudes and dogmatism of student teachers.

Peter John Quinn

University of Massachusetts Amherst

Follow this and additional works at: https://scholarworks.umass.edu/dissertations_1

Recommended Citation

Quinn, Peter John, "The effects of field teaching assignments : made on the basis of the teaching behavior of the student teachers and the cooperating teachers, on the attitudes and dogmatism of student teachers." (1970). *Doctoral Dissertations 1896 - February 2014*. 2485.

https://scholarworks.umass.edu/dissertations_1/2485

This Open Access Dissertation is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Doctoral Dissertations 1896 - February 2014 by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

THE EFFECTS OF FIELD TEACHING ASSIGNMENTS,
MADE ON THE BASIS OF THE TEACHING BEHAVIOR OF THE
STUDENT TEACHERS AND THE COOPERATING TEACHERS, ON THE
ATTITUDES AND DOGMATISM OF STUDENT TEACHERS

A dissertation Presented

By

PETER JOHN QUINN JR.

Submitted to the Graduate School of the
University of Massachusetts in
partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

June
(month)

1970
(year)

Major Subjects: Educational Research and Elementary Education

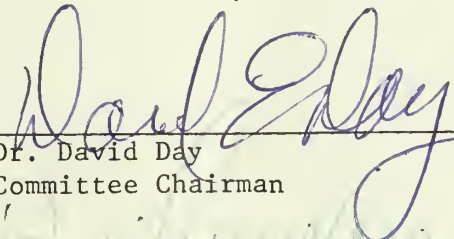
THE EFFECTS OF FIELD TEACHING ASSIGNMENTS,
MADE ON THE BASIS OF THE TEACHING BEHAVIOR OF
THE STUDENT TEACHERS AND THE COOPERATING TEACHERS,
ON THE ATTITUDES AND DOGMATISM OF STUDENT TEACHERS

A dissertation Presented

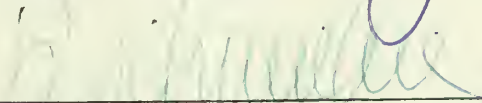
By

PETER JOHN QUINN JR.

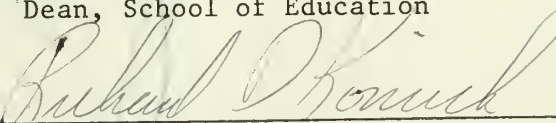
Approved as to style and content by:



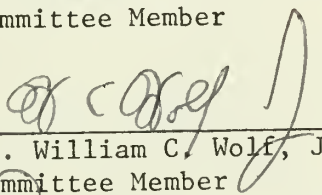
Dr. David Day
Committee Chairman



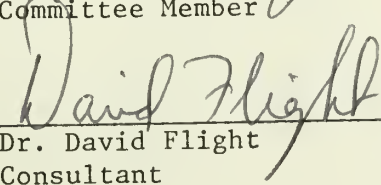
Dr. Dwight Allen
Dean, School of Education



Dr. Richard Konicek
Committee Member



Dr. William C. Wolf, Jr.
Committee Member



Dr. David Flight
Consultant

June 1976
(Month) (Year)

ACKNOWLEDGEMENTS

In writing this dissertation, the writer is indebted to a number of persons. To Dr. David Day, whose confidence in me allowed me to do things I never believed I was capable of. To Dr. William C. Wolf, whose advice and warm support I will never forget. To Dr. Richard Konicek, who has been extremely supportive of my efforts. To Dr. Gerald Lunney, who contributed much to the statistical analysis employed in the study.

My thanks are also extended to Miss Ella Rowe, Mr. Michel Burton, and all of the girls in the secretarial pool in the School of Education at the University of Massachusetts.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

CHAPTER

I. STATEMENT OF THE PROBLEM..... 1

- Purposes of the Study
- Specific Objectives
- Hypotheses
- Definition of Terms
- Rationale
- Significance of the Problem
- Limitations

II. RELATED RESEARCH..... 16

- Studies using the Kounin and Steward codes
- Studies on student teacher attitudes
- Studies on student teacher dogmatism

III. METHODOLOGY AND PROCEDURES..... 48

- Sample Population
- Measuring Instruments
- Placement Procedures
- Collection of Data
- Scoring Procedures
- Statistical Treatment of the Data

IV. ANALYSIS OF DATA..... 57

- Hypothesis One
- Hypothesis Two
- Hypothesis Three
- Hypothesis Four
- Hypothesis Five
- Hypothesis Six

V. SUMMARY AND CONCLUSIONS..... 76

- Summary
- Findings
- Conclusions

BIBLIOGRAPHY

APPENDIX

LIST OF FIGURES AND TABLES

Figure	Page
1. Schema used for analysis of Hypothesis One.....	59
2. Schema used for analysis of Hypothesis Three.....	69
3. Schema used for analysis of Hypothesis Four.....	71
4. Schema used for analysis of Hypothesis Five.....	72
5. Schema used for analysis of Hypothesis Six.....	74

Table	Page
1. Group Alerting - Student Teachers' MTAI Change Scores.....	59
2. Class Participation - Student Teachers' MTAI Change Scores.....	60
3. Reinforcement - Student Teachers' MTAI Change Scores.....	61
4. Accountability - Student Teachers' MTAI Change Scores.....	62
5. Group Alerting - Student Teachers' Rokeach Change Scores.....	63
6. Class Participation - Student Teachers' Rokeach Change Scores..	64
7. Reinforcement - Student Teachers' Rokeach Change Scores.....	64
8. Accountability - Student Teachers' Rokeach Change Scores.....	65
9. Similarity of Student Teachers and Cooperating.....	67
Teachers in Teaching Behavior - MTAI Change Scores	
10. Similarity of Student Teachers and Cooperating.....	68
Teachers in Teaching Behavior - Rokeach Change Scores	
11. Hypothesis III - Two Way Analysis of Variance Table.....	69
12. Hypothesis IV - Two Way Analysis of Variance Table.....	71
13. Hypothesis V - Two Way Analysis of Variance Table.....	73
14. Hypothesis VI - Two Way Analysis of Variance Table.....	75

CHAPTER I

The Statement of the Problem

An integral part of all teacher preparation programs is the student teaching experience. There is widespread agreement that the most significant variable operating during the student teaching experience is the cooperating teacher. Stratemeyer and Lindsay (1958) concluded that the key figures in teacher preparation programs are the classroom teachers with whom the student teachers receive their practical experience. McAulay (1960) found that the "students seemed to be greatly influenced by their cooperating teachers in methods of teaching, techniques of classroom housekeeping, and relationships with children" (p. 82).

Although much has been written about the importance of this phase of teacher preparation programs, there is little agreement as to what actually occurs as a result of the student teaching experience. Michaelis (1960) found the status of critical, evaluative research on student teaching to be very poor. He felt that this was due to the fact that much of what was written involved the collecting of the opinions of experts or using the statistical results of opinionnaires given to students, former students and administrators. Yee (1968), in pointing up the need for research in this area stated:

In student teaching, the candidates's (the student teacher) personality and behavior become significant factors relative to others around him. Unlike the course work where the students are mostly passive and absorbing whatever the instructors say and do, student teaching is conducted in an interpersonal setting that has no equivalent in most teacher training programs. It is a time for candidates to perform, evaluate, act, react, and adapt in relationship with and in response to others also involved in the

setting. Unfortunately, little is known about these relationships of personality and behavior in student teaching (p. 97).

Since the student teacher-cooperating teacher relationship is thought to play such a vital part in a program designed to prepare future teachers, it would follow that primary consideration should be given to the procedures involved in determining student teacher placements. Chaltas (1965) summarizes the procedures most commonly employed:

1. Matching an application blindly with a situation. No attempt is made to know much of either element or, if so, such knowledge is ignored for any number of reasons.
2. Matching an applicant with a situation on the basis of applicant's grade or subject matter preference and/or locale.
3. Interviewing the student to determine his suitability for certain types of communities. For example, an "awkward" type of personality may not be able to cope with the demands of parents in a sophisticated and possibly status-seeking community.
4. Matching student with situation on the basis of further information about both elements. (p. 311)

Although the whole idea of assignment in student teaching is to provide a setting which will allow for the student teacher to attain maximum professional growth, common placement practices are seldom based on considerations that would promote this growth. Classroom teachers are haphazardly recruited to perform this vital, challenging service and student teachers are assigned to them in a random fashion, more often than not. Yee (1968) concluded that the most effective way to improve the student teaching situation would be to discover more effective means of matching student teachers in the field and that this could be best accomplished by knowing more about the personality and behavior of the student teachers and the cooperating teachers.

Purposes of the Study

This study proposes to examine the feasibility of using an analysis of teacher behavior as a variable in student teaching placement. It will investigate the effects, on student teachers' attitudes and dogmatism, of assignments made on the basis of the teaching behavior of the student teacher and the cooperating teacher. Videotapes of the student teachers and cooperating teachers teaching a lesson will be made. The performance on various teaching behavior categories, contained in the Kounin Teacher Management Codes, will be described. Student teaching assignments will be made on the basis of the performance of both the cooperating teachers and the student teachers. Four matching schemes will be covered in each of the teaching behavior categories: 1) matching student teachers rated strong in the teaching behavior with cooperating teachers rated strong in the teaching behavior, 2) matching student teachers rated strong in the teaching behavior with cooperating teachers rated weak in the teaching behavior, 3) matching student teachers rated weak in the teaching behavior with cooperating teachers rated strong in the teaching behavior, and 4) matching student teachers rated weak in the teaching behavior with cooperating teachers rated in the teaching behavior. This study is part of a larger study, not yet completed, which is examining the effects of these four matching schemes on changes in the teaching behavior of the student teachers and the cooperating teachers. In this study, the effects of student teachers' and cooperating teachers' strengths and weaknesses in the teaching behavior categories on the degree of attitude and dogmatism change of the student teacher will be examined. Also examined will be the effects of the attitudes and dogmatism, prior

to student teaching, of the student teachers and of the cooperating teachers on the degree of attitude and dogmatism change of the student teachers. Changes in the attitudes and dogmatism of the student teachers were investigated because of the widely held tenet that the behavior of an individual is influenced by his attitudes and beliefs.

The questions and hypotheses generated in this study are set forth to investigate the existing generalization that student teacher attitudes and beliefs are apt to become similar to those of their cooperating teacher. In addition, the attitudes and dogmatism of the cooperating teachers will be examined, prior to and after participating in the study, to determine if they did change during the experience.

Specific Objectives

Answers to the following questions will be sought within this study:

- 1) Will the student teachers placed within the four matching schemes in each of the teaching behavior categories show difference in their degree of attitude and dogmatism change? For instance, in the teaching behavior category of Accountability, will the student teachers rated strong matched with cooperating teachers rated strong show the same degree of attitude and dogmatism change as student teachers rated weak matched with cooperating teachers rated strong?
- 2) Will the degree of attitude and dogmatism change of the student teachers be related to their degree of congruence with the teaching behaviors of the cooperating teachers with whom they are assigned? For instance, will student teachers who have the same strengths and weaknesses as their cooperating teachers show a different degree

of attitude and dogmatism change than student teachers who have strengths and weaknesses which are different from those of their cooperating teachers?

- 3) Will attitude changes of student teachers be related to their level of attitudes before student teaching and those of their cooperating teachers? For instance, will student teachers who scored high on the MTAI, matched with cooperating teachers who scored low on the MTAI show a different degree of attitude change than student teachers who scored high on the MTAI.
- 4) Will dogmatism changes of student teachers be related to their level of attitudes before student teaching and those of their cooperating teachers? For instance, will student teachers who scored high on the MTAI, matched with cooperating teachers who scored low on the MTAI show a different degree of dogmatism change than student teachers who scored low on the MTAI, matched with cooperating teachers who scored high on the MTAI?
- 5) Will attitude changes of student teachers be related to their level of dogmatism before student teaching and that of their cooperating teachers? For instance, will student teachers who had high dogmatism scores, matched with cooperating teachers who had low dogmatism scores show a different degree of attitude change than student teachers who had low dogmatism scores, matched with cooperating teachers who had high dogmatism scores?
- 6) Will dogmatism changes of student teachers be related to their level of dogmatism before student teaching and that of their cooperating teachers? For instance, will student teachers who had high dogmatism scores, matched with cooperating teachers who had low dogmatism scores

attitude change than student teachers who had low dogmatism scores, matched with cooperating teachers who had high dogmatism scores?

Hypotheses

The following hypotheses will be tested:

1. No differences will exist in the degree of attitude and dogmatism change of student teachers regardless of their matched performance in each of the teaching behavior categories.
2. No differences will exist in the degree of attitude and dogmatism change of student teachers regardless of similarity or difference of their teaching behavior to that of their cooperating teachers.
3. No differences will exist in the degree of attitude change of student teachers, regardless of their level of attitude and that of their cooperating teachers.
4. No differences will exist in the degree of dogmatism change of student teachers regardless of their level of attitude and that of their cooperating teachers.
5. No differences will exist in the degree of attitude change of student teachers regardless of their level of dogmatism and that of their cooperating teachers.
6. No differences will exist in the degree of dogmatism change of student teachers regardless of their level of dogmatism and that of their cooperating teachers.

Definition of Terms

The following terms used in the study have different meanings in various pieces of educational literature. In this study, for purposes

of communication, the terms have been used as defined below.

Student teacher. This term refers to the senior University of Massachusetts student enrolled in a program of full-time student teaching, who is assigned to a public school classroom under the direction of a cooperating teacher employed by the school system.

Change. This term is defined as the observed difference in attitude and dogmatism, as measured by the Minnesota Teachers Attitude Inventory and the Rokeach Dogmatism Scale E, between first testing (prior to the student teaching assignment) and the final testing (late in the student teaching experience.)

Attitudes. This term will be defined in terms of scores on the Minnesota Teachers Attitude Inventory (Cooks, Leeds, and Callis, 1951) which measures attitudes towards children and school work. This instrument is generally known as the MTAI.

Dogmatism. For this study, dogmatism, expressed in terms of the open and closed mind, will be defined as scores on the Dogmatism Scale Form E (Rokeach, 1960).

Student teaching experience. It is defined as that period of time (eight weeks) in which the student teacher takes increasing responsibility for a group of learners under the guidance of a cooperating teacher in a public school classroom.

Cooperating teacher. For this study, he is defined as the individual who supervises and directs the activities of the student teacher assigned to his classroom.

Matching on the basis of performance in certain teacher behavior areas. This phrase refers to the assessment of student teacher and

and cooperating teacher performance on the Steward modification of the Kounin Teacher Management Codes which describe teaching performance in terms of Accountability, Group Alerting, Class Participation, and Reinforcement.

Rationale

In attempting to eliminate haphazard placement of student teachers, an instrument was sought which would describe classroom behavior objectively. The Steward modifications of the Kounin Teacher Management Codes were chosen for this purpose. With these codes objective observation of videotaped classroom activities is used to determine certain dimensions of teacher behavior.

The modification of the codes originated with a research team at Emory University, composed of educators, teacher educators, supervisors and child psychologists concerned with describing classroom interaction. The team studied the work of Jacob S. Kounin of Wayne State University in which he developed materials that would describe the influence of emotionally disturbed children in the classroom (Kounin, 1968). The researchers, headed by Dr. Margaret S. Steward and Dr. David S. Steward, redesigned the Kounin Codes in order to be able to describe general classroom interaction within which the teacher as manager is involved. The Stewards (1969) state:

The basic content of the code was derived from those variables identified as necessary for learning to take place. Differential teacher management styles which result from an application of the code can be given construct validity from role theory. From the teacher's perspective, the behavior in the teacher-learning interaction can be seen as a function of 1) the teachers' perception of her students, and 2) her general theories about adult-child relationships...The scope of the code is

limited to the description of those interactions with the students, of which the teacher becomes a part, in her role as the adult who is responsible for the creation and maintenance of a teacher-learning situation (p. 6).

For this study the teaching behaviors which are used as placement variables are: Group Alerting, Class Participation, Accountability, and Reinforcement. These four behaviors make up the core of the instrument devised by the Stewards. Pilot research indicated that these behaviors occur throughout teacher-student interaction and can be coded at regular intervals.

The Steward Teacher Management Codes are being used for the first time as a vehicle for placing student teachers with cooperating teachers. Its usefulness in this area will be determined by, among other things, analyzing changes in attitudes and dogmatism of student teachers as well as by the development of teaching strengths in the four teaching behavior categories.

Videotape was chosen as the medium for observing and coding teacher behavior. The lessons taught by the student teachers and the cooperating teachers were recorded on videotape and each of these tapes was viewed and behavior in each of the teaching behavior categories was coded. Videotape was chosen because it provides for a permanent record of the teaching behavior and an objective rating of the behaviors observed.

It was reported in the Encyclopedia of Educational Research (Ebel, 1969) that many new kinds of audio-visual and electronic equipment have influenced two aspects of teacher education programs: evaluating student teachers and helping student teachers to improve their teaching skills. Although two areas of influence are noted, the editors were unable to find any research which pertained to student teacher evaluation. They

concluded that "the interest in utilizing samples of student teaching as a means of evaluation is evident, but no actual studies have been reported" (p. 1381).

Two studies were found, however, which commented on television and videotape as a medium for observing teacher behavior. Kounin (1967) used videotape because it provided a "non-selective, complete, and objective record of events in a classroom" (p. 224). Weiss (1962) used both classroom observation and television observation as techniques in a Foreign Language Summer Workshop at Hunter College. He found a striking difference between the types of discussions which took place after the classroom observations and after the television observations. He concluded that the very nature of the observations were quite different. He stated:

After classroom observation, the questions and comments concerned themselves with the broad areas of the lesson which had been observed. After the television observation, the comments dealt with many details, such as details of motivation, observation, there were comments which dealt with such aspects of the lesson as variety, pace, transitions, and continuity. Thus it was discernible that in the television observations, the members of the workshop had seen details more clearly and had obtained better insight into the structure and development of the lesson...It was quite obvious that the members of the workshop had actually "seen" more of the lesson itself in the television observation. They could communicate their observations more readily and discuss them more fully....Closed circuit television filtered out distractions which might prevent one from observing the actual teaching process closely. It does not allow the personality of the teacher or the social aspects of the lesson to overshadow the actual teaching process. The focusing of the camera by the control room technician helps the observer focus his attention on the essential points of the lesson. Everyone watching the screen is observing the same thing, whereas in the classroom, the observers are seeing many different things at the same moment. With closed circuit television, the members of the workshop do not identify themselves as closely with the teacher when they are observing. They are, therefore, apt to look upon the

situation in a more detailed manner." (Weiss, 1962, pp. 230-231)

A good deal of recent educational research has been concerned with an individual's attitude toward children and school work. The Minnesota Teachers Attitude Inventory is the instrument most commonly used in measuring the attitudes of student teachers and cooperating teachers. Gage (1964) found over fifty studies which used the MTAI.

The following statement which is contained in the directions handbook which accompanies the MTAI indicates that it would be an appropriate measure of both pre-service and in-service attitudes held toward children and school work. The authors, Cook, Leeds, and Callis, state that:

It is assumed that a teacher ranking at the high end of the scale should be able to maintain a state of harmonious relations with his pupils characterized by mutual affection and sympathetic understanding. The pupils should like the teachers and enjoy schoolwork. The teacher should like the children and enjoy teaching...At the other extreme of the scale is the teacher who attempts to dominate the classroom. He may be successful and rule with an iron hand creating an atmosphere of tension, fear, and submission or he may be unsuccessful and become nervous, fearful, and distraught in a classroom characterized by frustration, restlessness, inattention, lack of respect, and numerous disciplinary problems. In either case both pupils and teacher dislike schoolwork; there is a feeling of mutual distrust and hostility. (Cook, Leeds, and Callis, 1951, p.3)

As early as 1930, educators were concerned with the relationships between open and closed mindedness and its effect on teacher performance (Barr and Emons, 1930; Charters, 1930). Soderbergh (1964) concluded from his studies that "some veteran school teachers are excessively and for the most part unwittingly dogmatic" (p. 245).

One of the most widely accepted and validated instruments in this area of value research is the Rokeach Scale of Dogmatism. The Dogmatism Scale, Form E, is made up of forty statements which measure individual

differences in opinions and closedness of belief systems. A high score characterizes a person who is dogmatic and unresponsive to new ideas; a low score characterizes a person who is flexible, adaptive, and receptive to new ideas. Rokeach defines Dogmatism as "namely, the extent to which a person can receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situations arising from within the person or from the outside." (Rokeach, 1960, p. 57) In other words, the open minded person is able to distinguish between information and the source of information, whereas the closed minded person is not.

A person's belief-disbelief system, which represents all the beliefs, sets expectations or hypotheses that a person accepts as true of the world he lives in and all those he rejects as false, serves two functions: one set permits him to know and understand, while the other wards off threat. Open belief systems, where the need to know is stronger than the need to ward off threat are symptomatic of the open minded personality. "In the service of the cognitive need to know, external pressures and irrational, internal drives will often be pushed aside so that information received from the outside will be discriminated, assessed, and acted upon according to the objective requirements of the situation." (Rokeach, 1960, p. 67)

It is easy to see, if one accepts Rokeach's theory of open and closed belief systems, its relevance to a classroom situation. The dogmatism of a teacher could easily result in a positiveness of assertion in matters of opinion when such a position is unnecessary. Such a situation might well have a detrimental effect on students in the classroom. Soderbergh (1964) in discussing dogmatism and its effects in the

classroom asks how "can our pupils develop a creative instinct if they are confronted with teachers who purport to know the only answers to all questions and who have obviously discontinued to search further for the truth" (p. 245).

Significance of the Problem

Despite the recognized importance of the student teaching experience and the voluminous literature devoted to this part of teacher preparation programs, very little can be deduced about the impact of the student teacher-cooperating teacher relationship. Most of the literature pertaining to the student teacher and the cooperating teacher is an afterthought. It is concerned with the description of programs already in progress or research dealing with student teaching assignments that have not controlled for the individual differences of the student teacher and the cooperating teacher. There has been very little research which has asked the question: "What happens when we place student teacher type A with cooperating teacher type B?" Research has taken place after the student teaching assignment has been made with little attention given to the fact that there might exist different "types" of cooperating teachers and student teachers.

This study proposes to examine the feasibility of using a description of teaching behavior as a variable in student teaching placement. It will investigate the effects on student teachers' attitudes and dogmatism of assignments made on the basis of the videotaped behavior of the student teacher and the cooperating teacher. Also examined will be the effects of the attitudes and dogmatism, prior to student teaching, of the students teachers and the cooperating teachers on the degree

of attitude and dogmatism change of student teachers.

Limitations

The following are considered to be limitations inherent in this study:

- 1) The cooperating teachers. The teachers who took part in the study may not represent the total population of cooperating teachers for these possible reasons:
 - a) They were paid to participate in the study.
 - b) They were required to participate in a series of seminars on Principles of Supervision (of student teachers) conducted by two professors from the School of Education at the University of Massachusetts.
 - c) The study utilized only intermediate level teachers (grades 4, 5, 6).
- 2) Size of the sample. The sample was limited by the difficulty involved in obtaining student teachers to participate in the study. The University of Massachusetts is presently involved in numerous experimental teacher education programs and available student body and facilities were limited. Sample size was also influenced by the problem of trying to coordinate student teaching scheduling in five different school districts.
- 3) The university supervisor. In this study, the University supervisor was eliminated. The cooperating teacher was given full reign in terms of supervising the student teacher. The purpose of the Principles of Supervision seminars was to prepare him thoroughly for this role. In most studies involving the

relationship of the student teacher and the cooperating teacher, the presence of the University supervisor is considered a limitation.

4) The instruments used. The attitudes, and dogmatism of the student teacher and the cooperating teacher were measured in terms of the instruments employed in the study. Instruments such as the MTAI and Rokeach make it possible to measure with some degree of accuracy the variables involved. However, these instruments are only able to measure the attitudes and dogmatism of people in terms of what they say about their attitudes and dogmatism.

5) The class lesson. There was no adequate means for insuring the uniformity of the classroom situations which were videotaped.

Other limitations involved in the study include the fact that only a small segment of videotape was taken as representative of teaching behavior and that the teaching behaviors described are only those that are categorized in the Steward Teacher Management Codes.

CHAPTER II
RELATED RESEARCH

Surveyed in this chapter will be: studies directly related to the development of the Kounin Teacher Management Codes and the Steward modification of these codes; studies concerned with attitudes and the student teacher; and studies concerned with dogmatism or openmindedness and the student teacher.

Biddle (1964) has pointed out that there are endless dimensions of behavior which can and have been studied. There are over 18,000 adjectives available in the English language which describe behavior directly and most of these can be used to describe the behavior of the classroom teacher. Biddle (1960, p. 22) lists the different techniques which have been used in attempting to measure teacher effectiveness:

1. Observation Techniques
 - a) participant observation
 - b) categorical check lists
 - c) specimen records
 - d) electronic recording of behavior
2. Objective Instruments
 - a) achievement tests
 - b) ability tests
 - c) questionnaires and interview schedules
 - d) projective tests
3. Rating Forms
4. Self Report
5. Existing Records
6. A Priori Classification

No attempt will be made to review the different techniques used to

measure teacher effectiveness. The studies reviewed in this section were included because they were related directly to the development of the instrument used in this study to measure teacher behavior.

Kounin and Gump (1958) used what Biddle would describe as the specimen record technique, which emphasizes the objective description of situations, in their concern with the immediate environment of learning. From their records they concluded that classroom situations often force the behaviors of both the pupils and the classroom teacher and that managerial techniques are a major ingredient of teacher competence. They coined the phrase "Ripple Effect" to describe the effect that a teacher's control actions toward a misbehaving pupil have on pupils who are not directly involved in the situation.

The Stewards modified a group of unpublished codes originally developed by Jacob S. Kounin of Wayne State University. They were used by Kounin to study the effects of emotionally disturbed children in the classroom. The codes are centered around techniques used by teachers to handle classroom discipline problems. One of Kounin's hypotheses was that a teacher's success in managing a classroom as a whole depends on his success in managing the behavior of the emotionally disturbed children in the class. Significant correlations were obtained by Kounin between the scores of disturbed and non-disturbed children, .764 for work involvement, .818 for deviancy in recitation subsettings and .649 for deviancy in seatwork settings. He felt that it could be either that the disturbed children model their behavior after the non-disturbed or vice versa, but in either case the linking together of the two behaviors was evident. (Kounin and Obradovic 1968)

Some of the categories used were Slow downs, Smoothness, Group Alerting and Accountability. Slow down and Smoothness were used to refer to teacher initiated and maintained class movement. Slow downs were concerned with friction produced by the teacher that impedes the group's rate of movement. Smoothness was used to code the manner in which the teacher initiated and maintained class movement. Group Alerting and Accountability were used to identify the degree to which the teacher is concerned with the behavior of the whole group as opposed to the behavior of a single child. Group Alerting was concerned with how the teacher acts to keep the group alert and stimulated and Accountability is the degree to which the children are made aware that the teacher is following their work and behavior.

In an earlier study Kounin and Gump were concerned with the effect of a teacher's method of discipline on the entire class, not just the child being reprimanded. The control techniques were divided into three areas; clarity, firmness, and roughness. Clarity was used as a measure of how well the teacher defined the extent to the child's misbehavior. Firmness dealt with the ability of the teacher to convince the children that he meant what he said and would follow through with action. Roughness indicated the extent to which the teacher lost his temper and became slightly or greatly abusive, verbally or physically.

When instructions for behavior were not clear the children responded with more non-conformance than when the instructions were clear. The firmness used by the teacher did not enable a prediction of pupil reaction either toward or away from conformity. Children

participated in more disruptive behavior after one of their peers was treated roughly by the teacher than before the reprimand took place. The assumption was that the children were upset by the teacher's actions. The length of time in the classroom also seemed to affect the children's response to control techniques. On the first day the children reacted to 55% of all control stimuli while on the next three days they reacted to only 34% of the control stimuli. The indication seems to be that clarity is a valuable asset in the classroom control of kindergarten students while any roughness only aggravates more disruption.

"It is postulated that aggression leads to counteraggression; it is further postulated that a primitive teacher has more power over her pupils than they have over her and that she blocks overt manifestation of pupils' aggression." (Kounin and Gump 1961) One of the hypothesis posed for study was "that the school misconduct preoccupations of children with primitive teachers will contain more aggression than those of children with non-primitive teachers." (p. 45) Seventy-four boys and one hundred girls in the first semester of the first grade were chosen from schools in upper-lower to middle-middle socio-economic neighborhoods and climate was controlled by choosing teachers defined as primitive and non-primitive in pairs from the same schools. The children were interviewed individually during the third month of attendance at school. The questions asked were, "What is the worst thing a child can do at school?" and "Why is that so bad?" Identical questions were asked regarding home as the area of misconduct. A comparison of attitudes toward school misconducts held by children with primitive and non-primitive teachers indicated a clear emphasis

of violent, aggressive behaviors in the response of the children having primitive teachers.

Most of Kounin's work is concerned with the classroom as a whole unit in an almost organic sense. Studying children in grades one through five he comments,

One might consider the implications of the findings of this study in relation to the training of teachers. For one thing, these findings point to the necessity of discovering the dimensions of teaching style that are relevant to the ecology of the classroom and to a teacher's position in this setting. They justify a degree of skepticism about extrapolating dimensions of adult-child relations from other settings (homes, psychotherapy clinics) and applying these directly to teacher-child relations. They also raise the questions about the fruitfulness of analyzing teachers on the basis of personality characteristics as compared to concrete techniques of programming activities and initiating and maintaining movement in the program. And, without the intent of minimizing the importance of studying individual children, the findings do suggest placing a higher priority on framing for group management than is currently emphasized in educational psychology curricula. (Kounin, Friesen & Norton, 1966, p. 13)

Kounin felt that perhaps in collecting data from the students regarding the seriousness of a given deviancy and the teacher's handling of it, the actual opinions of the pupils regarding the deviancy were collected and not the first impressions of the teachers. He (Kounin, 1967) presented some questions as to the real variables being measured. It was recognized, however, that perhaps the opinions were the more important data of the two. In particular this was felt to be true in Kounin's first exploratory study conducted in college classrooms. (Kounin, Gump, Ryan, 1961)

The Stewards working with a research team, studied the unpublished Kounin codes and redesigned them to describe general classroom interaction within the context of the teacher as manager of the classroom.

Two studies have been completed by the Stewards with a third in progress. The first study took place at Emory University during the summer of 1968. Data was collected from forty experienced teachers attending an eight week NDEA mathematics institute and ten student teachers in their first term of the Emory MAT program. The exploration of the usefulness of the concepts in the instrument to the teachers and the stability of teacher management behavior over time were among the variables considered. The value of the instrument was judged by asking each teacher to rate the usefulness and teachability of the concepts defined in the codes on a five point scale ranging from "exceptionally useful" to "not at all useful." The mean and modal values were skewed toward the exceptionally useful end of continuum; however, 83% of the concepts elicited the full range of response.

Twenty of the experienced teachers were randomly selected and video taped during the six-week practicum. Four 10-15 minute samples were taken on each teacher and the samples were spread throughout the practicum. Coders trained by the investigators used a research form of the observational instrument to code the tapes. The coders started with a .886 inter-rater reliability and weekly checks revealed levels of .937, .961, .956, and .967. Data analysis was performed to determine the stability of teacher style over time. Great variability was seen between teachers but little within teacher variability was observed.

The reinforcement categories (reward, punishment and information) were analyzed by a Chi-Square test for independence comparing the first taping with the remaining three tapings. The amount of information given by the teachers following a student response was high and stable; however, the amount of reward dropped significantly over repeated tapings. This finding, is paralleled

in the observational research literature with families, and has been interpreted to be a function of the effect of being observed, and of the early fluctuation seen in the formation of a new group (in this instance the teacher and her class). (Stewards, 1969)

The second study was conducted during the winter of 1968-69 considering three variables; experience of the teacher, socio-economic class, and grade level. Thirty-two experienced teachers were obtained from two inner city schools, four metropolitan area schools and two private schools. One 15 minute video tape was collected from each of the thirty-two teachers. Taping occurred during normal classroom session and no standardization of teaching method or content took place. A 2x2 factorial analysis of variance (1-3, 4-6 grades and low, middle socio-economic status comprising the 2x2) was done for each of the four weighted Process Code variables. Signal Delivery and Accountability gave no significant results. Participation analysis of variance showed a significant main effect ($P .05$) revealing that middle class teachers used more classroom structure for the students than the lower class teachers. Total feedback (positive, negative and information only) analysis of variance was almost significant ($P = .06$) and indicated that lower class first grade teachers supplied more feedback than either of the middle class cells. Inter-rater reliability was in excess of .90 and as of June 1969 data analysis of the Process Code was the only analysis completed.

A third study was in progress which was designed to investigate possible correlations between the Adjective Check list, a clinical instrument for describing the teachers' perceptions of his students,

and the Teacher Management Codes.

In reviewing the literature on the student teacher and the cooperating teacher, few studies were reported which used any sort of a systematic approach in analyzing the student teacher-cooperating teacher relationship. Only three studies (Price, 1961; Holl, 1968; and Hill, 1969), which will be reported later in this chapter, were found which allowed for student teaching assignments made on the basis of personality or attitudinal variables. No studies were found which analyzed the relationship in terms of assignments on the basis of the teaching behaviors of the student teacher and the cooperating teacher.

Much of the research relating to the cooperating teacher and the student teacher is the result of the analysis of data collected after the student teacher-cooperating teacher relationship has been formed. If pre-test data was gathered, it was very rarely used as a variable in determining the student teaching assignment. The studies surveyed in the rest of this chapter deal with dogmatism and attitudes, as they are related to the student teacher and the cooperating teacher.

Attitudes

This section reviews studies which resulted in the development of the Minnesota Teacher Attitude Inventory as a measure of attitudes towards children and school work, studies dealing with changes in the attitudes of student teachers during various phases of their teacher preparation program, and studies that examined the relationship of attitudes of student teachers to other personalities and background data.

Gage (1963) lists points of general agreement on the definitions of attitudes:

- 1) Attitudes are socially formed. They are based on cultural experience and training and revealed in cultural products. The study of life history data reveals the state of mind of the individual, and of the social group from which he derives, concerning the values of the society in which he lives.
- 2) Attitudes are orientations towards others and towards objects.
- 3) Attitudes are selective. They provide a basis for discriminating between alternative courses of action and introduce consistency of response in social situations of an otherwise diverse nature.
- 4) Attitudes reflect a disposition to an activity, not a verbalization. They are organizations of incipient activities, of activities not necessarily completed, and represent therefore the underlying dispositional or motivational urge. (p. 404)

The Minnesota Teachers Attitude Inventory has been the most widely used instrument for the measurement of teacher attitudes. A large part of teacher attitudinal research has been carried on in connection with the development of the MTAI or in studies utilizing the MTAI and correlating it with other instruments. Five areas of socio-educational literature were covered in the construction of items for the MTAI.

The five areas were:

- 1) Moral status of children in the opinion of adults, especially as concerns their adherence to adult-imposed standards, moral or otherwise.
- 2) Discipline and problems of conduct in the classroom and elsewhere, and methods employed in dealing with such problems.
- 3) Principles of child development and behavior related to ability, achievement, learning, motivation, and personality development.
- 4) Principles of education related to philosophy, curriculum and administration.

- 5) Personal reactions of the teacher, likes and dislikes, sources of irritation, etc.

(Cook, Leeds, and Callis, 1969, p. 10)

In developing the MTAI, Cook and Leeds (1947) administered the instrument to 200 teachers who had been previously rated as inferior or superior teachers by their pupils, their principal, and one of the authors. Chi Squares were computed to determine how well the items discriminated between the two types of teachers. Correlations between the MTAI and the ratings of the authors, principals, and the pupils were .486, .434, and .452, all significant at the .01 level. Cook and Leeds concluded that the attitudes of teachers can be measured with a fair degree of reliability.

Callis (1950) used a slightly extended form of the Inventory to investigate the changes that occur during teacher training and early teaching experience. He concluded from his study that the MTAI was valuable in predicting teacher-pupil relations and in the selection of prospective teachers.

The final form of the MTAI consists of 150 items, 129 of which were taken from the original instrument as developed by Leeds and 21 of which were taken from the extended form developed by Callis.

Sandgren and Schmidt (1956) used the MTAI and the Student Teaching Evaluation Report developed at Ball State Teachers College in a study which was concerned with (1) determining the direction and extent of changes of attitude toward children and schoolwork made during the period of practice teaching and (2) ascertaining the relationships between the attitudes and appraisals of the student teacher's ability

in teaching as measured by the reports made by public school teachers under whom the students did practice teaching. The MTAI was administered before and after student teaching and t tests were used to compare the differences between the means of correlated samples. The authors concluded that:

- (1) Attitudes of student teacher improve during the period of time in which practice teaching is taken.
- (2) MTAI norms show that teacher training increases MTAI scores indicating that practice teaching should be considered as training rather than experience, as scores were increasing during practice teaching.
- (3) Elementary curriculum student teachers have more favorable attitudes toward schoolwork and children as expressed by MTAI scores than do student teachers following other curriculums.
- (4) Because there was no apparent relationship between MTAI scores and critic teachers' ratings, the MTAI cannot be used to predict probable success in teaching if the ratings made by critic teachers are used as a criterion of success. (p. 680)

Coss (1959) conducted a study to determine if attitude changes took place in elementary education majors during various phases of the professional sequence and if the attitudes of these students moved in the direction of their methods instructors and their cooperating teachers. MTAI scores were obtained for the elementary education students at the beginning and end of their methods courses and at the beginning and end of their student teaching. One half of the students were re-tested at the end of the summer vacation. The MTAI was administered once to the eleven methods instructors and the 151 supervising teachers.

Coss concluded that attitude change of the student teachers were

flexible and fluctuated since changes were found during the period of methods courses, summer vacation, student teaching and a workshop which followed the student teaching experience. A large positive change in attitude was found after the workshop. Student teachers whose MTAI scores moved in a negative direction moved in the direction of their supervising teachers whose scores were rated as "low." Coss suggested that greater care should be taken in the future in the selection of cooperating teachers and that these teachers should be required to participate in a service training program.

Osmon (1958) used 222 secondary education student teachers to determine if there was a significant change in attitude during the student teaching experience, as measured by the MTAI. He pre- and post-tested the student teachers and selected twenty student teachers, whose MTAI scores had moved in a negative direction and twenty student teachers, whose scores had moved in a positive direction, and interviewed them. An interview guide was developed which attempted to isolate factors deemed important during the student teaching experience. No factors were found which could be associated with an increase or decrease in the student teachers' MTAI scores.

Day (1959) administered the MTAI to 196 college seniors immediately upon completion of their student teaching and a year later a copy of the MTAI was mailed to them with directions to complete it and return it. Of the 196 college graduates, 135 were employed as teachers and 61 were employed in unrelated professions; 109 of the teaching group and 37 of the non-teaching group completed and returned the MTAI. Those who were teaching showed a mean loss of 20.0, while the MTAI authors report for

their samples a mean loss of 3.94. Those who were employed in non-teaching occupations showed a mean loss of 1.5. Day also administered the MTAI to 154 elementary student teachers before and after student teaching. A mean score loss of 4.2 was found as compared to a mean loss of 3.39 reported by the MTAI authors.

Scott and Brinkley (1960) administered the MTAI before and after student teaching to 82 student teachers. Those student teachers who were placed with cooperating teachers whose attitudes were more positive than their own, moved significantly in the direction of their cooperating teachers. Those student teachers who worked with cooperating teachers whose scores were lower than theirs on the MTAI did not as a group significantly change in their attitudes as measured by the MTAI.

Del Popolo (1960) investigated the relationship between personality and attitudes and observable behavioral traits in a classroom setting. He devised a 177-item scale using the Webster, Sanford, and Freedman scale and the California F Scores as a measure of authoritarianism. He also constructed an Observation Check Sheet for observing the classroom behavior of student teachers. Three groups were formed from 366 sophomore and junior students at a New York state teachers college: (1) a pilot study group of student teachers, (2) an experimental group of 190 student teachers, and (3) a control group of 100 students who did not do student teaching.

All of the students participating in the study were pre-tested on the authoritarian scale and the MTAI at the beginning of the sophomore year and post-tested on them at the end of the junior year. The Observation Check List was completed for each of the students in Group

One and Two during student teaching. Negative correlations of $-.59$ and $-.66$ between MTAI scores and authoritarian scale scores were found and negative correlation of $-.62$ between the Observation Check Sheet scores and authoritarian scale scores were found. The control group, which did not do student teaching, showed greater gains than did the experimental group. Del Popolo concluded that student teaching has an influence on the attitudes of student teachers towards children.

McCullough (1962) used the MTAI to investigate the attitude changes of college students involved in two types of student teaching programs at North Texas State College. One program placed students in student teaching for the first nine weeks of the semester and education courses for the last nine weeks of the semester. The other program had the students take the education courses during the first nine weeks and the student teaching during the last nine weeks.

The MTAI was administered to students in both programs at the beginning of the semester, after the first nine weeks, and at the end of the semester. The mean MTAI score for students involved in both programs changed in a positive direction during the nine weeks of education courses and in a negative direction during the student teaching experience.

Dutton (1962) was concerned with anxiety as a factor in attitude change during the student teaching experience. The Pittsburg revision of the Taylor Manifest Anxiety Scale (MAS), and the Anxiety Differential were administered to 91 elementary student teachers. They were also given the MTAI prior to, and after their student teaching assignment. A control group of 150 college students who had not yet done their

student teaching were given the same battery of tests. A significant change of attitude from a positive to a negative direction was found for both the highly anxious and non-anxious student teacher; however, the 150 students who had not had student teaching showed no significant attitude change during the semester. A positive gain was shown by 22% of the 91 elementary student teachers and 78% moved in a negative direction. Negative changes in attitudes in the direction of their cooperating teachers was found for both the highly anxious and the non-anxious student teachers.

Corrigan and Griswold (1963) constructed an inventory which measured student teachers' attitudes toward the following educational principles:

- (1) the learner's purposes are recognized and utilized
- (2) the learner is engaged in problem solving
- (3) the learner is helped to develop generalization which he can apply in a variety of life situations. (p. 93)

It was concluded that the student teaching experience does affect change in the attitudes of student teachers toward principles deemed important in education. Negative or positive change was related to the extent to which the student teacher perceived how his college supervisor and cooperating teacher enforced the three educational principles. The following relationships were found:

1. A high positive change with certain college supervisors and less positive or a negative change with others.
2. A high positive change for student teaching in lower grades and less positive or a negative change for those working in in the upper grades.

3. A high positive change with one placement during the semester and less positive change or a negative change for students working with more than one cooperating teacher, grade level, or school during the semester.
4. A high positive change of students whose undergraduate field of study was in an area other than psychology or sociology and less positive or a negative change with students having a major in psychology or sociology.
5. Higher favorable initial attitudes of students electing to do student teaching in lower grades and less favorable initial attitudes of those electing the upper grades.
6. A slightly higher positive change for younger students than older students.
7. No relationship of change with type of school (city, suburban, private).
8. No significant correlation between attitude change and high or low initial attitude scores. (pp. 93-94)

Renfro (1965) sought to determine if there is a significant relationship between either the degree or the direction of attitude change towards pupils and factors such as the sex of the student teacher, grade level taught, subject matter area taught, size of school, attitude of the respective cooperating teachers, and the strength of manifest needs associated with the personality traits of teachers. The MTAI was given as a pretest to the 180 student teachers at Oklahoma State University. The Edwards Personal Preference Schedule was also administered at this time. After nine weeks of student teaching, the MTAI was administered

as a mid-term test and again in the final week of student teaching as a post-test. MTAI scores for the 180 cooperating teachers were obtained through the mail. Scores on each of the 15 scales of the EPPS were used as a measure of the strength of manifest needs associated with each personality trait the instrument purports to measure and the MTAI scores were used as a measure of attitudes towards pupils. Analysis of variance was used to determine the significance of differences between the mean scores.

Renfro's findings were more suggestive than conclusive. Most of the differences that were found were associated with factors which previous research had shown to be related to MTAI scores. Females had a tendency to score higher on the MTAI than the male student teachers. Elementary student teachers scored consistently higher on the MTAI than secondary student teachers, and secondary student teachers who taught academic subjects were consistently higher than the ones who taught non-academic subjects. When the direction and degree of change for each of the sub-groups were compared, the over-all patterns of change were quite similar. Difference found between sub-groups that existed on the pre-test were also found on the mid-term and the post-test. There was no evidence of a relationship between either the degree or direction of attitude change and any of the 15 scales on the EPPS.

Libscomb (1966) constructed a situational type attitude inventory which she administered to 44 elementary education majors prior to and after their student teaching experience. She concluded that a significant change occurred in the expressed attitudes of student teachers as a result of their student teaching experience. This was found to be

true at the .001 level of confidence.

McFadden (1968) administered the Scale of Interpersonal Values (SIV), the MTAI, and the California Psychological Inventory (CPI) to 89 student teachers after their student teaching experience and classified them into three categories in terms of their supervisors' ratings of their teaching success. Multivariate discriminate analysis was used to analyze the data separately for the elementary student teachers and secondary student teachers. It appeared that groups of student teachers considered to be differently successful in teaching could be identified as possessing varying degrees of certain psychological characteristics. For the elementary student teachers, four inventory scales made significant contributions to the distance between the three elementary success groups: conformity, independence, communality, and tolerance; and for the secondary group: recognition capacity for status, communality, and psychological mindedness. McFadden states:

In general, the results of the study lend encouragement to the hypothesis that specific psychological dimensions discriminate differentially success rated groups of student teachers. Also it appears justified to state that differences exist between elementary education student teachers and secondary student teachers with respect to the relevant psychological characteristics involved. (p. 217)

McEwin (1968) administered the MTAI to 367 seniors at East Texas State University at the beginning of the spring semester, nine weeks later when methods courses were completed and student teaching was about to begin, and at the student teaching seminars held after completion of student teaching. An instrument, designed to measure the influence of certain factors upon attitudinal change, was administered

at the time of the third MTAI testing. McEwin found a significant difference in attitudinal change during method courses and student teaching. Factors related to professional relationships were found to be more influential than other factors upon attitude change. This conclusion was reached from the fact that of the 18 factors which had the greatest influence upon attitudinal change, 13 of these were related to professional relationships. The most influential factor considered in the study was the cooperating teacher's personality. This factor ranked number one of the seventy factors considered in the study.

Yee (1969) conducted a study using a modified version of the MTAI and a modified scoring system in a study conducted with 124 cooperating teachers and 124 student teachers. The study tested the hypothesis that cooperating teachers are a significant source of influence in student teaching and sought to determine the direction of causation. He concluded that cooperating teachers do wield great congruent influence upon the attitudes of student teachers.

Dogmatism

This section traces the development of the Rokeach Dogmatism Scale as a measure of open and closed mindedness. Although much research has been done on dogmatism as a personality variable, there is little research on it as a factor related to either cooperating teacher or student teacher performance.

In reviewing the literature, two instruments were found which are designed to measure "openness," "objectivity," or "open-mindedness:" the Rokeach Dogmatism Scale and Freeze's Q-sorts. The studies reported

in this section utilized one of these two instruments in studying the relationship of dogmatism to the student teacher and the cooperating teacher.

Over forty years ago the relationship between dogmatism and teaching was recognized. Barr and Emons (1930) analyzed 209 rating scales used to evaluate teaching success and concluded that open-mindedness was one of the most important personality characteristics found in an effective teacher. Charters (1929), from the data gathered in his Commonwealth Teacher Training Study, rated open-mindedness as one of the 25 most important traits required of an effective teacher. When Ryans (1960) factor analyzed the data from the Teachers Characteristics Study, a factor consistently appeared on student's ratings of teachers which Ryans described as objectivity or open-mindedness.

Early research in this area of personality was carried out by Adorno, Frinkel-Brunswick, Levinson, and Sanford (Rokeach, 1960, p. 11). Their research began in 1943, when the problem of anti-Semitism was of great concern. Although their research began as a study of anti-Semitism, it was expanded into a study of general intolerance. The "fascism scale" or "F scale" was one of the important products of their research.

Although the "F scale" proved useful as a measure of ethocentrically oriented non-objectivity, it is biased in the direction of a particular political and social attitude. Its statements are directed towards Jew, Negroes, foreigners and the like. Rokeach believed that the closed mind is not limited to one political or social attitude. He states:

Authoritarianism and intolerance in belief and interpersonal relations are surely not a monopoly of Fascists, anti-Semites, Ku Klux Klanners, and conservatives. We have observed these phenomena among persons adhering to various positions along the total range of political spectrum from left to right. (Rokeach, 1960, p. 13) Rokeach's intention was to construct a scale which transcended any particular ideological position and penetrated to the formal and structural characteristics of all positions. We need some way to think about a person's belief system which will enable us to skirt around the content of the belief system and still reveal, intact, its structure. (Rokeach, 1960, p. 15)

Rokeach found that persons who were identified as closed-minded have the ability to analyze a problem as well as persons who were identified as open-minded, but lack the ability to synthesize and incorporate new beliefs. The replacement of one system with a new system is difficult for the closed-minded person, for he is threatened by the change he is required to make. He is required to give up the security which he found in his old system.

Applying this to the student teacher-cooperating teacher relationship it would seem logical to predict that the more open-minded student teacher would be able to integrate the more desirable attitudes of the cooperating teacher and that the more closed-minded student teacher would have trouble doing so. However, Kemp, writing in The Open and Closed Mind (Rokeach, 1960, p. 337) stated that this may or may not be the case:

Two persons may both change a given attitude, but for opposing reasons: in one it may represent a 'party line' change in conformity to authority: in the other it may represent a more 'genuine' change based on a deeper appreciation, or understanding or maturity. Conversely, two persons may both refuse to change a given attitude: in one it may represent rigidity, and in the other, firmness or stability...persons with relatively closed

systems may sometimes manifest change and sometimes fixedness for basically the same reasons. These reasons have been variously described as conformity, other directedness identification with authority, ego defense, compartmentalization, isolation, opportunism, and expediency. Conversely, change and non-change in open systems may result equally from a correct appraisal of reality from intellectual conviction rather than from dogmatic conviction, and from independence rather than subservience to conformity pressure. (Rokeach, 1960, pp. 336-337)

Milton Rokeach developed the Rokeach Dogmatism Scale, which measures the degree of open-closed mindedness of an individual, by devising statements which would be made by closed-minded persons. The Dogmatism Scale went through five revisions. In the final five editions of the Dogmatism Scale 89 items were tried out. The final scale, Form E, contains the best 40 of the 89 items.

Persons who score high on the 40 item scale are assumed to be more closed-minded in their belief system; those who score low, more open-minded. The more closed a person's belief system, the more likely he is to evaluate others according to their agreement or disagreement with his own system; it is more difficult for him to discriminate and to evaluate beliefs apart from the person holding them. Conversely, the more open the belief system, the less dependent the person is upon evaluating others solely on the basis of their belief. (Rokeach, 1960, p. 89)

As the results of a statement of Soderbergh (1964) that veteran school teachers become increasingly dogmatic, Rabkin (1964) conducted a study to test this theory of "creeping dogmatism." He administered the Rokeach Dogmatism Scale, Form E to 107 school teachers enrolled in summer courses at the University of Washington. The group mean score was 132.2 which indicated a more open-minded group than any of the university samples used in studies by Rokeach (1960). He found no significant relationship between the degree of dogmatism of the teachers and their years of teaching experience or their age. He concluded that

the tendency toward excessive dogmatism or closed-mindedness is not a general characteristic of this group of present day educators. "Indeed results indicate a considerably lower degree of this rigid type of thinking as compared with various other college and non-college groups." (p. 49)

A study by Cappelluzzo and Brine (1969) attempted to answer the following questions: Are prospective teachers dogmatic? Is their degree of dogmatism a function of their subject matter preference? Is it a function of their religious preference? The group tested consisted of 254 undergraduates at the University of Massachusetts who planned to enter teaching as a profession. The authors concluded that:

Prospective teachers as a group are neither more or less dogmatic than state university students in general.... The combination of the evidence gathered to date leads one to state that prospective teachers like university students in general, are more dogmatic than experienced teachers....It is important to note that although they are not significant, certain patterns do exist in the data for University of Massachusetts students. Students with various subject preferences tend to show different levels of dogmatism. As a person's religious preference represents a more dogmatic view of reality, there is an increase in the average measured dogmatism. (p. 152)

Q-sorts devised by Freeze (1963) are believed by Johnson (1969a) to measure open-mindedness. Freeze examined the relationship between open-mindedness of student teachers, cooperating teachers, and their college supervisors. Changes in the open-mindedness of student teachers, were examined as functions of the degree of openness of the cooperating teacher and the college supervisor. Freeze concluded that other relationship variables of greater consequence in effecting change in student teachers than were "open" characteristics of either college supervisors

or cooperating teachers. There was relatively little change in openness in the group of student teachers who were observed over the period of one semester; however, a student teacher who was placed with college supervisors and cooperating teachers, both of whom were less "open" showed a decrease in their scores.

Elliot (1964) used Freeze's Q-sorts to explore the relationship between changes in openness of student teachers and the openness of college supervisors and cooperating teachers. He found that significant negative changes occurred in the openness of the student teacher during the student teaching experience and that this change was significantly related to the openness of the cooperating teacher but not to the openness of the college supervisor. When the negative changes in openness during student teaching were examined, it was found that the significant factor was the decrease in openness of the student teachers who were more open at the beginning of student teaching. Student teachers who were less open showed less change in openness during student teaching. Increases and decreases in openness of student teacher experience did not occur when examined as a function of their original level of openness and openness of their cooperating teacher.

Bills (1964) used Freeze's Q-sorts to examine the relationship between changes in openness of student teachers and the openness of their cooperating teachers and college supervisors. The results of the study showed negative changes in student teachers during the student teaching period. The most significant negative changes in openness found among student teachers was in those who were more open at the beginning of student teaching. A significant relationship was found

between the negative changes of the student teachers and the degree of openness of their cooperating teachers.

Kinard (1968) used Freeze's Q-sorts to investigate the change in openness of student teachers during their student teaching experience in terms of grade level, location of student teaching assignment and judged student teaching effectiveness. He found no significant change in the openness of students during their student teaching experience as a result of grade level, location of assignment or judged student teacher effectiveness.

A study by Zahn (1964) used the Dogmatism Scale and the Teacher Situation Reaction Test (TSRT) to determine the effect of instruction and supervision by the college supervisor using Flanders System of Interaction Analysis upon the attitude held toward teaching by student teachers and to determine the relationship between the change in attitudes of student teachers during student teaching and the attitudes of their cooperating teachers. Zahn divided up 92 student teachers into four groups of 23 students as follows: Groups A and B were given conventional instruction and supervision, Group C had conventional instruction and supervision by Zahn, Group D (the experimental group) had instruction and supervision using Flanders Interaction Analysis by Zahn.

The Dogmatism Scale and the TSRT was administered to all student teachers prior to instruction and supervision in their student teaching. The cooperating teachers were also administered the TSRT. The TSRT was given to all the student teachers and cooperating teachers after the student teaching experience. No significant differences were found between the four groups prior to the student teaching but student

teachers who had instruction and supervision in Interaction Analysis had significantly more positive teaching attitudes than their cooperating teachers. They were also found to have more positive attitudes after student teaching than the other three groups. Nineteen of the 23 students in the experimental group showed positive attitude change while only 36 of the other 69 students showed positive attitude change.

A study reported by Hough and Amidon (1965) used the Dogmatism Scale and the TSRT. Forty student teachers were administered the Dogmatism Scale and TSRT prior to student teaching. After student teaching, the TSRT was readministered. Twenty student teachers were taught Interaction Analysis during their student teaching and twenty student teachers were not. No significant differences were found between the two groups on the Dogmatism Scale or the TSRT prior to student teaching.

Amidon concluded from his study:

The student teachers who were taught Interaction Analysis showed significant pre- to post-test change in a positive direction on the Teaching Situation Reaction Test. Those student teachers who were not taught Interaction Analysis did not change significantly. However, there was a slight trend which indicated that this group actually became more negative during student teaching. The greatest change in scores on the Teaching Reaction Test was made by those student teachers in the Interaction Analysis group who scored in the lower third of the range on the Dogmatism Scale. These were teachers with a relatively open belief system. A comparison of TSRT change scores for those student teachers in the two groups who scored in the lower third of the range on the Dogmatism Scale indicates that their attitudes toward teaching differed significantly. A similar comparison of student teachers in the two groups who scored in the middle and upper third of the range on the Dogmatism Scale showed no significant differences. It seems apparent therefore, that significant pre- to post-TSRT change scores in the Interaction Analysis groups are related to both training in Interaction Analysis and to the openness of those student teachers' belief system.
(p. 77)

Hanny (1966) investigated the effect of Dogmatism as measured by the Rokeach Dogmatism Scale and the personality factors measured by the Teachers Situation Reaction Test (TSRT) on the verbal behavior of student teachers who were taught the Flanders System of Interaction Analysis and on the verbal behavior of student teachers who were not taught this system. He concluded that closed-minded student teachers, as measured by the Dogmatism Scale, who received undesirable scores on the Teacher Situation Reaction Test can be taught Flanders System of Interaction Analysis and are able to use this system to control their behavior and use what is considered as desirable verbal behavior. Student teachers who scored high or low on either of the personality measures and who were not trained in Interaction Analysis varied greatly in their use of desirable verbal behavior as described by Flanders.

Johnson (1969a, 1969b) conducted two studies using the Rokeach Dogmatism Scale, Form E. In the first study (1969a) he attempted to determine if change in student teaching dogmatism during the student teaching experience was a function of the degree of dogmatism of the cooperating teacher. Johnson hypothesized that the student teacher who scored lower on the pre-test of dogmatism than did the cooperating teacher would show a significant gain in the dogmatism scores in the post-test and that those who scored higher than their cooperating teacher on the pre-test would show a loss in the dogmatism score on the post-test. A significant change in dogmatism scores of the student teachers was found. Of the eighty student teachers who participated in the study, fifty-three moved in the direction of the cooperating teacher on the variable of dogmatism from pre- to post-test and

twenty-seven moved in the opposite direction. A significant relationship (.01) was found on the mean dogmatic score of those who scored lower than their cooperating teacher. For those student teachers who scored higher than their cooperating teacher the mean shift was significant at the .05 level. Johnson concluded that great care should be taken when placing a student teacher with a cooperating teacher.

Johnson's (1969b) second study was concerned with the personalities of student teachers, cooperating teachers, and college supervisors and the effect of open and closed-mindedness on student teaching success. The sample consisted of 130 student teacher, 104 cooperating teachers, and 20 college supervisors. Two questions were set forth: (1) Is there a relationship between the degree of dogmatism of the student teacher and success in student teaching as indicated by supervisory ratings? and (2) Is there a relationship between the dogmatism of the cooperating teacher and the student teacher and success in student teaching as indicated by supervisory ratings?

Data analysis indicated that the cooperating teachers tended to give higher ratings to student teachers who were nearer the closed-minded end of the continuum. There was no significant relationship between student teachers' dogmatism scores and the ratings of success submitted by the college supervisors. Analyses also revealed that congruence of open and closed-mindedness of the student teacher and his cooperating teacher and college supervisor had little effect on the type of ratings which the student teacher was given.

The last three studies to be reported in this chapter looked at particular personality characteristics and attitudes of the student

teachers and the cooperating teachers and used their respective scores as a basis for student teaching assignments.

Price (1961) used the MTAI and Sanders' Observation Schedule to investigate the changes in student teachers' attitudes during student teaching and the extent of influence of the cooperating teachers on the performances and attitudes of the student teachers. The student teachers and the cooperating teachers were given the MTAI and were grouped so that "low," "middle," and "high" student teachers were placed with "low," "middle," and "high" cooperating teachers. The MTAI was administered again two weeks before the end of student teaching to the participating student teachers. The 45 selected cooperating teachers had a mean score of 39.0 and a range of 114 to -34, while the 45 selected student teachers had a mean score of 50.44 and a range of 105 to -15. No significant differences were found between the student teachers' pre- and post-test MTAI scores; however, the "low," "middle," and "high" groups of student teachers showed score changes which were significant at the .05 level. Price concluded that a "considerable change occurred in the student teachers' attitudes during the student teaching semester and that there was tendency for their attitudes to change in the direction of the attitudes held by the respective cooperating teacher. On the other hand, closer inspection of the attitude scores showed that the findings were not entirely true when considered on an individual basis." (p. 475)

Holl (1968) administered the "F scale" which is a measure of the authoritarian - democratic personality to 143 cooperating teachers at the beginning of student teaching and both the "F scale" and the MTAI

were administered to 143 student teachers at Western Illinois University at the beginning and end of student teaching. The student teachers and the cooperating teachers were placed into one of five groups depending on the initial "F scale" scores. The five groups formed were: autocratic cooperating teacher - autocratic student teacher, democratic cooperating teacher - democratic student teacher, democratic cooperating teacher - autocratic student teacher, ambivalent cooperating teacher - ambivalent student teacher.

Holl found no conclusive evidence that the attitudes of student teachers as measured on the "F scale" autocratic - democratic continuum, are affected by the attitudes held by their cooperating teachers even though some significant changes were found within and between the groups. He concluded the attitudes as measured on an autocratic-democratic continuum, held by cooperating teachers had little or no effect on attitudes toward children and school work as measured by the MTAI, held by their respective student teachers.

Hill (1969) studied the effect of selected student teaching assignments as they related to certain personality profiles of student teachers and cooperating teachers. The study was directly concerned with whether or not a matching system of similar basic interests and attitudes would improve student teaching performance. Heil's Manifold Interest Schedule was administered to 40 student teachers and 40 cooperating teachers to establish personality profiles of each subject.

Student teachers and cooperating teachers were matched in terms of profiles B (self-controlling) and C (fearful) in the following way:

Cooperating Teacher

B
B
C
C

Student Teacher

B
C
B
C

University supervisors were trained in the use of the Classroom Observation Record which was developed by David Ryans for the Teacher Characteristic Study. Analysis of variance was the statistical technique used to analyze the data. The results produced no statistical significant support for the hypothesis that when student teachers and cooperating teachers are matched there will be significant effect on the student teaching performance.

Summary

There is little that can be concluded from the studies reported in this chapter concerning the student teacher - cooperating teacher relationship. Ryans (1964) believed that this is due to the varying conditions under which teaching takes place, the value decisions involved in teaching and the fact that descriptions of teachers are not equally generalizable to all teachers. Strom (1961) concluded that it is the "difficulty of identifying and defining, hence controlling the multitude of variables involved in such a complex process as student teaching." (p. 1)

The most comprehensive statements concerning the situation have been made by Yee (1968):

Although few professional educators need to be convinced that the individual differences of student teachers require attention, many may not apply the same principles to the personality and behavior of the cooperating teacher.They may assume an ideal, normative type of leader that is effective with most student teachers. Such assumptions place considerable burden on the candidates (student teachers), who must then accept major responsibility for personal adjustments and interpersonal problems...(p. 92)

The cooperating teacher may or may not have the option of accepting or refusing a student teacher, but seldom does he have much information about the student teacher with whom he may work. For the student teachers, the few options generally available in choosing grade level and perhaps college supervisor do not provide him with much control of the cooperating teacher to whom he will be assigned....With the increasing number of student teachers each year, many institutions find it difficult to locate sufficient classroom placements for students and as a consequence candidates must often accept assignments to grade levels other than those preferred and count themselves fortunate just to be student teaching. (p. 107)

It seems that most of the research reported on the student teacher relationship assumes Yee's description of the cooperating teacher as a "normative type leader." Little attention has been focused on the personality and behavior of the cooperating teacher and its effect on the student teacher.

It was hoped in this study that, by examining the teaching behavior of the student teacher and the cooperating teacher, some definite conclusions concerning attitude and dogmatism change in student teachers could be reached.

CHAPTER III
METHODOLOGY AND PROCEDURES

The major purpose of this research study was to examine the feasibility of using a description of teaching behavior as a variable in student teaching placement. It investigated the effects on student teachers' attitudes and dogmatism of assignments made on the basis of the videotaped teaching behavior of the student teacher and the cooperating teacher.

In order to accomplish this, the research procedures involved the following steps:

- 1) Selection of the sample population,
- 2) selection of the instruments for measuring the attitudes and dogmatism of the student teachers and the cooperating teachers,
- 3) selection of a system or method of describing the classroom behavior of the student teachers and cooperating teachers,
- 4) utilization of the system chosen to make student teaching assignments,
- 5) collection of the data, including the pre- and post-measures of attitudes and dogmatism and the videotaped teaching behavior of the student teacher and the cooperating teacher, and
- 6) statistical analyses of the data.

Selection of Sample Population

The sample population for this study was composed of 33 elementary education majors at the University of Massachusetts who had applied for teaching assignments in the intermediate grades (4, 5, 6)

for the spring semester of 1970; and 33 classroom teachers from Springfield, Belchertown, Northampton, Westfield, and Greenfield. There were 41 cooperating teachers who were videotaped but only the 33 whose teaching behavior best fitted the experimental design of the study were assigned student teachers. The 33 cooperating teachers who participated in the study were selected and assigned student teachers so that at least six student teacher-cooperating teacher pairs were found in each of the four matching schemes within each of the teaching behavior categories.

The students in the elementary education program at the University of Massachusetts enroll in a one-semester "block" program during the spring or fall semester of their senior year. The "block" program consists of three phases which the students participate in during a single semester. Phase I, which lasts three weeks, consists of one week of methods courses, one week of observation in the classroom of the cooperating teachers to whom they are assigned, and a third week of methods courses. Phase II, which lasts for seven weeks, is a period of intensive professional training on campus. The student teachers take courses which explore the structure and teaching strategies of relevant disciplines. Phase III consists of eight weeks of concentrated student teaching.

Measuring Instruments

Two instruments were used to measure the attitudes and dogmatism of the student teachers and the cooperating teachers. The two instruments were: (1) the Minnesota Teacher Attitude Inventory and

(2) the Rokeach Dogmatism Scale, Form E. The Steward modification of the Kounin Teacher Management Codes were used to describe the classroom behavior of the student teacher and the cooperating teacher.

The Minnesota Teacher Attitude Inventory. The MTAI has been the most extensively used instrument for the measurement of the attitudes of teachers and prospective teachers. The authors define the purpose of the Inventory as to "measure those attitudes of a teacher which predict how well he will get along with pupils in interpersonal relationships, and indirectly how well he will be satisfied with teaching as a vocation." (Cook, Leeds, Callis, 1960, p. 3)

Form A of the MTAI consists of 150 statements concerning teaching and children. The examinee is directed to mark each statement according to his degree of agreement by checking "strongly agree," "agree," "uncertain," "disagree," or "strongly disagree." A key is provided to obtain the scores on a "rights minus wrongs" basis. The authors state that there are no "right" or "wrong" answers, and that these terms are used to avoid a change in accepted terminology. A high score indicates that the examinee has substantially the same attitudes as the criterion group of one hundred teachers rated as superior by the test authors, principals, and pupils, and a low score indicates that the examinee has substantially the same attitudes as the criterion group of one hundred teachers rated as inferior by the test authors, principals, and pupils.

Rokeach Dogmatism Scale. Milton Rokeach developed the dogmatism scale, which measures the degree of open or closed mindedness of an individual by devising statements generally deduced to be those

beliefs held by closed minded persons and by using statements actually made by people who were considered to be closed minded. Agreement with the statements on the scale yields a score indicative of a closed mind and disagreement with the statement yields a score indicative of an open mind. The degree of open and closed mindedness is measured by the subject's selection of one of six forced choice answers: "I agree very much," "I agree on the whole," "I agree a little," "I disagree a little," "I disagree on the whole," "I disagree very much." Each of the items is on a seven point scale. The greater the agreement with the statement, the higher the score. The Dogmatism Scale is scored by summing the various ratings made by the examinee.

The Dogmatism Scale went through five revisions. These revisions used 89 different items. The best 40 items were incorporated into the final edition, Form E. Rokeach reports reliabilities ranging from .68 to .93. He states that "these reliabilities are considered to be quite satisfactory, especially when we remember that the Dogmatism Scale contains quite a strange collection of items that cover a lot of territory and appear on the surface to be unrelated to each other." (p. 90)

Kounin Teacher Management Codes. The Steward modification of Kounin's Teacher Management Codes is an observation instrument which has been used to classify certain types of interaction that take place between the classroom teacher and her students. The Stewards (1969) state that "the scope of the code is limited to the description of those interactions with the student, of which the teacher becomes a part, in his role as the adult who is responsible for the creation

and maintenance of a teaching-learning situation." (p. 1)

This particular system of classroom observation was chosen for the study because it yields objective data on the student teachers' and cooperating teachers' classroom behavior. The codes were designed "to describe general classroom interaction within which the teacher as manager is involved. The codes are applicable to videotaped data collected in a variety of learning situations." (p. 3)

Placement Procedures

The student teaching assignments were made on the basis of the scores of the cooperating teachers and the student teachers on the teaching behavior categories of Accountability, Group Alerting, Class Participation, and Reinforcement as described by the Steward Teacher Management Codes. Possible scores in each of the categories ranged from 1.000 to 4.000. The median score for the student teachers and the median score for the cooperating teachers were found in each of the four teaching behavior categories. Those student teachers whose scores in a teaching behavior category were below the median for the student teachers were described as "weak" in that skill area and those student teachers whose scores in a teaching behavior were above the median for the student teachers were described as "strong" in that skill area. Those cooperating teachers whose scores in a teaching behavior category were below the median for the cooperating teachers were described as "weak" in that skill area and those cooperating teachers whose scores in a teaching behavior category were above the median for the cooperating teachers were described as

"strong" in that skill area. The assignments were made so that there were at least six pairs of cooperating teachers and student teachers represented in each of the four matching schemes for the four skill areas. For example, in the skill area of Accountability, there were at least six student teachers "weak" in the area of Accountability, matched with six cooperating teachers "weak" in the area of Accountability; at least six student teachers "weak" in the area of Accountability, matched with six cooperating teachers "strong" in the area of Accountability; at least six student teachers "strong" in the area of Accountability, matched with six cooperating teachers "weak" in the area of Accountability; and at least six student teachers "strong" in the area of Accountability, matched with six cooperating teachers "strong" in the area of Accountability.

Collection of Data

The MTAI and the Rokeach Dogmatism Scale were administered to each student teacher and cooperating teacher twice; once prior to the beginning of the student teaching experience and once at the end of the student teaching experience.

The student teachers were required to teach a lesson approximately ten minutes in length on a subject of their choice to small groups of intermediate grade students in the Mark's Meadow Laboratory School at the University of Massachusetts, prior to their actual student teaching experience. The cooperating teachers were asked to teach a lesson approximately twenty minutes in length on a subject of their choice prior to being assigned a student teacher. Both of these

lessons were videotaped and rated at two minute intervals by trained raters. The student teachers' tapes were rated on a total of eight minutes of teaching and the cooperating teachers' tapes were rated on a total of sixteen minutes of teaching.

Each of the tapes was rated by two trained observers using the Steward modification of the Kounin Teacher Management Codes. The raters were graduate students in the School of Education at the University of Massachusetts. They read and studied the Code descriptions which accompany the Teacher Management Codes, observed the same tapes and compared assessments they made of the student teacher and the cooperating teacher. For this study, the raters established a reliability coefficient of .87.

Scoring Procedures

The procedures followed for scoring the MTAI were those suggested by Cook, Leeds, and Callis (1960) in the directions manual which accompanies the instrument. The procedures followed for scoring the Rokeach Dogmatism Scale, Form E, were those suggested by Rokeach in his book, The Open and Closed Mind (1960).

The raters who observed the videotapes of the student teachers and the cooperating teachers noted the specific behaviors being observed in relation to those behaviors listed in the codes and recorded them as they occurred over two minute intervals. The score of a student teacher or a cooperating teacher on a particular category of the codes was arrived at by first averaging the scores of the three raters on each of the categories. Thus, each student teacher and

each cooperating teacher has one score for each of the categories, Group Alerting, Accountability, Class Participation, and Reinforcement, of the Steward Teacher Management Codes. Reviewing, each student teacher and each cooperating teacher had two sets of scores for the Rokeach Dogmatism Scale and the MTAI and one set of scores in each of the categories on the Steward Codes.

Statistical Treatment of the Data

Because this study was exploratory in nature, the .05 level of significance was accepted for all of the hypotheses tested. The difference between post-test and pre-test scores of the student teachers on the MTAI and the Rokeach Dogmatism Scale were used to determine the changes in attitude and dogmatism of the student teachers.

Two way analysis of variance was used to test the first hypothesis, using the change scores of the student teachers on the two tests. The change scores on both tests were analyzed in terms of the four matching schemes utilized in each of the skill areas. This was done for the four skill areas of Accountability, Group Alerting, Class Participation, and Reinforcement.

One way analysis of variance was the technique used to test the second hypothesis. The change scores of the student teachers on the Rokeach Dogmatism Scale and the MTAI were analyzed in terms of the number of skill areas in which the student teacher and the cooperating teacher were both the same, either "strong" or "weak."

For the last four hypotheses, the student teachers and cooperating

teachers were divided into high and low groups on attitudes and dogmatism depending on whether their scores on the tests fell above or below the median of their respective groups. Changes of the group were tested using two way analysis of variance.

CHAPTER IV
ANALYSIS OF DATA

The investigation of the changes in student teachers' attitudes and dogmatism was made during an eight week period while the student teachers were enrolled in student teaching. The scores of the student teachers and the cooperating teachers on the Minnesota Teacher Attitude Inventory and the Rokeach Dogmatism Scale can be found in the Appendix. Pre-test and post-test attitude and dogmatism scores were gathered on 33 cooperating teachers; pre-test and post-test attitude and dogmatism scores were gathered on 30 student teachers. Three student teachers did not take the post tests because of a University of Massachusetts student strike. The results of the analysis of the attitude and dogmatism scores are presented in this chapter.

Pre-test scores of the student teachers on the MTAI ranged from 14 to 96 with a mean of 62.166; post-test scores ranged from -24 to 91 with a mean of 33.766. The difference between post-test and pre-test means was -28.4. A t test yielded a t value of 4.896 significant at the .005 level ($t_{.005} = 2.756$). This indicates a significant negative change in attitude by student teachers toward children and school work.

Pre-test scores of the student teachers on the Rokeach Dogmatism Scale ranged from 65 to 172 with a mean of 126.333; post-test scores ranged from 71 to 174 with a mean of 129.033. The difference between post-test and pre-test means was 2.7. A t test yielded a non-significant t value of .803 ($t_{.005} = 1.699$).

Pre-test scores of the cooperating teachers on the MTAI ranged

from -34 to +96 with a mean of 43.848; post-test scores ranged from -27 to 104 with a mean identical to that of the pre-test of 43.848.

Pre-test scores of the cooperating teachers on the Rokeach Dogmatism Scale ranged from 82 to 182 with a mean of 131.939; post-test scores ranged from 71 to 174 with a mean of 136.878. The difference between post-test and pre-test means was 4.939. A t test yielded a nonsignificant value of 1.457 ($t_{.05} = 1.6944$).

Twenty-five student teachers moved in a negative direction and 5 moved in a positive direction on post-test MTAI scores. Twenty-three student teachers' MTAI scores moved in the direction of their cooperating teachers' MTAI scores and 6 student teachers' MTAI scores moved in an opposite direction from their cooperating teachers' MTAI scores.

Thirteen of the student teachers' Rokeach Dogmatism post-test scores moved in a negative direction and 16 moved in a positive direction from pre to post test. Nineteen of the student teachers dogmatism scores moved in the direction of their cooperating teachers dogmatism scores and 8 student teachers' dogmatism scores moved in an opposite direction from their cooperating teachers' dogmatism scores.

Hypothesis I

No differences will exist in the degree of attitude and dogmatism change of student teachers regardless of their matched performance in each of the teaching behavior categories.

To test this hypothesis, the change scores of the student teachers on the MTAI and the Rokeach Dogmatism Scale between the beginning and the end of student teaching were analyzed by two way analysis of variance. The change scores were analyzed to determine if there were

significant (.05 level) attitude and dogmatism changes.

Eight two way analysis of variance designs were used: four to determine attitude change and four to determine dogmatism change. The results of these analyses are presented in Tables 1 through 8. The diagram below describes the schema used for each two way analysis.

Figure 1

Student Teacher Performance in Teaching Behavior Category

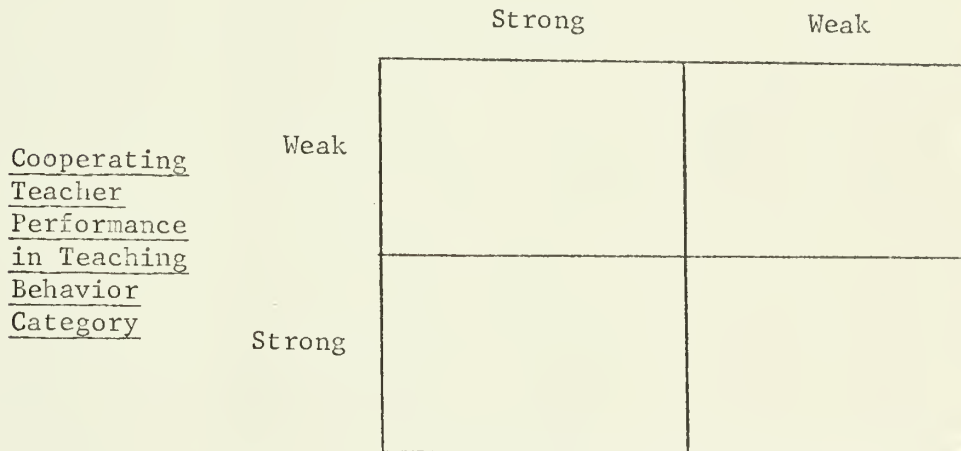


Table 1

Group Alerting-Student Teacher's MTAI Change Scores

	df	S.S.	M.S.	F
Student teachers	1	401.160	401.160	2.880
Cooperating teachers	1	2.090	2.090	.015
Interaction	1	139.736	139.736	1.003
Subjects within groups	26	25819.575	993.060 ÷ 7.130= 139.279	

$F(.05) (1.26) = 4.2252$

The effect of student teachers rated strong or weak in Group Alerting on MTAI change scores yielded a non-significant F value of 2.880. Those student teachers who were rated weak in Group Alerting tended on the average to show greater negative attitude change than those student teachers who were rated strong in Group Alerting. The effect of placing student teachers with cooperating teachers rated either weak or strong in Group Alerting yielded a non-significant F value of .015. The interaction effect yielded a non-significant F value of 1.003.

Table 2

Class Participation - Student Teachers' MTAI Change Scores

	df	S.S.	M.S.	F
Student teachers	1	2.683	2.683	.019
Cooperating teachers	1	289.442	289.442	2.077
Interaction	1	33.181	33.181	.238
Subjects within groups	26	26631.146	1024.274 ÷ 7.352= 139.319	

$F(.05) (1.26) = 4.2252$

The effect of student teachers rated strong or weak in Class Participation on MTAI change scores yielded a non-significant F value of .019. The interaction effect yielded a non-significant F value of .238. A non-significant F value of 2.077 was found between student teachers placed with cooperating teachers rated strong or weak in Class Participation. Those student teachers who were placed

with cooperating teachers rated weak in Class Participation tended on the average to show greater negative attitude change than those student teachers who were placed with cooperating teachers rated strong in Class Participation.

Table 3
Reinforcement - Student Teachers' MTAI Change Scores

	df	S.S.	M.S.	F
Student teachers	1	243.719	243.719	2.305
Cooperating teachers	1	505.237	505.237	4.779
Interaction	1	987.374	987.374	9.34
Subjects within groups	26	19052.623	732.793 ÷ 6.932= 105.711	

$$F(.05) (1.26) = 4.2252$$

$$F(.01) (1.26) = 7.7213$$

The effect of student teachers rated strong or weak in Reinforcement on MTAI change scores yielded a non significant value of 2.305. Those student teachers rated weak in Reinforcement showed on the average less attitude change than student teachers rated strong in reinforcement. The effect of student teachers placed with either strong or weak cooperating teachers yielded an F value of 4.779, significant at the .05 level ($F.05 = 4.2252$). Those student teachers placed with cooperating teachers rated weak in Reinforcement showed a significantly greater decrease on the average on MTAI scores than student teachers placed with cooperating teachers rated strong. The interaction effect

yielded an F value of 9.34 significant at the .01 level ($F_{.01} = 7.7213$). The mean attitude change was the least for student teachers who were judged the same as cooperating teachers in the teaching behavior category of Reinforcement. The smallest mean attitude change was for student teachers rated high matched with cooperating teachers rated high. The largest mean attitude change was for student teachers rated high matched with cooperating teachers rated weak.

Table 4
Accountability - Student Teachers' MTAI Change Scores

	df	S.S.	M.S.	F
Student teachers	1	192.169	192.169	1.218
Cooperating teachers	1	163.956	163.956	1.039
Interaction	1	80.918	80.918	.513
Subjects within groups	26	27192.458	1045.863 + 6.633= 157.675	

$$F(.05) (1.26) = 4.2252$$

The effect of student teachers rated strong or weak in Accountability on MTAI change scores yielded a non significant F value of 1.218. The effect of placing student teachers with cooperating teachers rated strong or weak in Accountability yielded a non significant F value of 1.039. The interaction effect yielded a non significant F value of .513.

Table 5

Group Alerting - Student Teachers' Rokeach Change Scores

	df	S.S.	M.S.	F
Student teachers	1	57.608	57.608	1.138
Cooperating teachers	1	.931	.931	.018
Interaction	1	1.988	1.988	.039
Subjects within groups	26	9378.098	360.696 + 7.130= 50.588	

$$F(.05) (1.26) = 4.2252$$

The effect of student teachers rated strong or weak in Group Alerting on dogmatism change scores yielded a non-significant F value of 1.138. Those student teachers who were rated strong in Group Alerting tended on the average to show a greater increase in dogmatism score than those student teachers rated weak in Group Alerting. The effect of placing student teachers with cooperating teachers rated as strong or weak in Group Alerting yielded a non significant F value of .018. The interaction effect yielded a non significant F value of .039.

Table 6

Class Participation - Student Teachers' Rokeach Change Scores

	df	S.S.	M.S.	F
Student teachers	1	24.290	24.290	.498
Cooperating teachers	1	.588	.580	.012
Interaction	1	20.407	20.407	.418
Subjects within groups	26	9488.894	364.957 ÷ 7.490= 48.725	

$$F(.05) (1.26) = 4.2252$$

The effect of student teachers rated as strong or weak in Class Participation on dogmatism change scores yielded a non significant F value of .498. The effect of placing student teachers with cooperating teachers rated weak or strong in Class Participation yielded a non significant F value of .012. The interaction effect yielded a non significant F value of .418.

Table 7

Reinforcement - Student Teachers' Rokeach Change Scores

	df	S.S.	M.S.	F
Student teachers	1	7.458	7.458	.141
Cooperating teachers	1	25.190	25.190	.477
Interaction	1	125.104	125.104	2.370
Subjects within groups	26	8896.312	342.165 ÷ 6.482= 52.786	

$$F(.05) (1.26) = 4.2252$$

The effect of student teachers rated as strong or weak in Reinforcement on dogmatism change scores yielded a non significant F value of .141. The effect of placing student teachers with cooperating teachers rated weak or strong in Reinforcement yielded a non significant F value of .477. The interaction effect yielded a non-significant F value of 2.370. The mean dogmatism change was the least for student teachers who were judged the same as their cooperating teacher on the teaching behavior category of Reinforcement. The smallest mean dogmatism change was for student teachers rated weak matched with cooperating teachers rated weak. The largest mean dogmatism change was for student teachers rated strong matched with cooperating teachers rated weak.

Table 8

Accountability - Student Teachers Rokeach Change

	df	S.S.	M.S.	F
Student teachers	1	24.217	24.217	.535
Cooperating teachers	1	53.597	53.597	1.184
Interaction	1	103.612	103.612	2.289
Subjects within groups	26	8300.958	319.267 ÷ 7.054= 45.260	

F(.05) (1.26 = 4.2252)

The effect of student teachers rated strong or weak in Accountability on Rokeach change scores yielded a non-significant F value of .535. A non-significant F value of 1.184 was found between student teachers placed with cooperating teachers rated strong or weak in

Accountability. The interaction effect yielded a non-significant F value of 2.289. The mean dogmatism change was the greatest for student teachers who were judged the same as their cooperating teachers in Accountability. The smallest mean dogmatism change was for student teachers rated strong in Accountability matched with cooperating teachers rated weak in Accountability. The largest mean dogmatism change was for student teachers rated weak in Accountability matched with cooperating teachers rated weak in Accountability.

The only significant differences found in change scores in relation to placement in the four matching schemes was in the category of Reinforcement (Table 3). Student teachers placed with cooperating teachers rated weak in the category of Reinforcement showed a significantly greater decrease on the average on MTAI scores than student teachers placed with cooperating teachers rated strong.

No significant relationship was found for the categories of Group Alerting, Class Participation, and Accountability and attitude and dogmatism change in terms of placement within the four matching schemes. The null hypothesis was not rejected for these three teaching behavior categories but was rejected for the category of Reinforcement in terms of student teacher attitude change.

Hypothesis II

No differences will exist in the degree of attitude and dogmatism change of student teachers regardless of the similarity of their teaching behavior to that of their cooperating teachers.

The changes in attitudes and dogmatism in terms of similarity in teaching behavior of the student teacher to the cooperating teacher

were investigated with one way analysis of variance. Student teacher-cooperating teacher teams were placed into groups in terms of the number of teaching behavior categories in which they were both rated the same, either weak or strong. Absolute values were analyzed by one way analysis of variance. Three categories were set up: 1) those student teachers and cooperating teachers who were similar in only one teaching behavior category or in no teaching behavior category, 2) those student teachers and cooperating teachers who were similar in two teaching behavior categories and 3) those student teachers and cooperating teachers who were similar in three teaching behavior categories or in all four teaching behavior categories. The results of the one way analysis of variance are shown in Tables 9 and 10.

Table 9

Similarity of Student Teachers and Cooperating Teachers in Teaching Behavior - (Student Teachers' MTAI Change Scores)

	df	S.S.	M.S.	F	
A	2	1974.662	987.331	$\frac{987.331}{597.407}$	= 1.652
S(A)	27	16130.005	597.407		
Total	29	18104.667			

$F(.05) (2,27) = 3.3541$

Table 10

Similarity of Student Teachers and Cooperating Teachers in Teaching Behavior - (Student Teachers' Rokeach Change Scores)

A	2	40.016	20.008	$\frac{20.008}{159.901}$	= .125
S(A)	27	4317.351	159.901		
Total	29	4357.367			

$$F(.05) (2,27) = 3.3541$$

The one way analysis of variance of the student teachers MTAI change scores yielded an F value of 1.652 (F .05 value = 3.3541) and the one way analysis of variance of the student teachers Rokeach Dogmatism change scores yielded an F value of .125 (F .05 value = 3.3541). The null hypothesis that no differences exist in the degree of attitude and dogmatism change of student teachers regardless of similarity of their teaching behavior to that of their cooperating teachers was not rejected.

Hypothesis III

No differences will exist in the degree of attitude change of student teachers regardless of their level of attitude and that of their cooperating teachers.

The relationship of attitude change of student teachers to attitude level of student teachers and cooperating teachers was determined by two way analysis of variance. Student teachers and

cooperating teachers were divided into high attitude groups and low attitude groups depending on whether their MTAI pre test scores fell above or below the median of their respective groups. A two by two analysis of variance design was used to measure significant differences in terms of student teachers MTAI change scores between pre and post test. The diagram below describes the schemes used to test Hypothesis III.

Figure II
Student Teachers

		High Attitude	Low Attitude
<u>Cooperating</u> <u>Teachers</u>	Low Attitude	MTAI change scores of student teachers	MTAI change scores of student teachers
	High Attitude	MTAI change scores of student teachers	MTAI change scores of student teachers

The results of the two way analysis of variance are shown in Table 11.

Table 11

	df	S.S.	M.S.	F
Student Teachers	1	432.411	432.411	3.382
Cooperating Teachers	1	253.430	253.430	1.982
Interaction	1	35.040	35.040	.274
Subjects within groups	26	24896.304	957.550 + 7.490= 127.843	

$$F(.05) (1.26) = 4.2252$$

$$F(.10) (1.26) = 2.90$$

No significant F values at the .05 level were found for Hypothesis III; however the effect of the initial level of attitudes of student teachers on MTAI change scores yielded an F value of 3.382, significant at the .10 level ($F_{.10} = 2.90$) with student teachers with high initial attitudes showing, on the average, a greater negative attitude change than student teachers who had relatively low levels of attitude. The effect of initial level of attitudes of cooperating teachers on MTAI change scores yielded a non significant F value of 1.982 with student teachers placed with cooperating teacher having low levels of attitude showing, on the average, a greater negative change in attitude than student teachers placed with cooperating teachers having relatively high levels of attitude. The interaction effect yielded a non-significant value of .274.

Hypothesis IV

No differences will exist in the degree of dogmatism change of student teachers regardless of their level of attitude and that of their cooperating teachers.

The relationship of dogmatism change of student teachers to the initial level of attitudes of student teachers and their cooperating teachers was examined by two way analysis of variance. Student teachers and cooperating teachers were divided into high and low attitude groups depending on whether their MTAI pre test scores fell above or below the median of their respective groups. A two by two analysis of variance design was used to measure significant differences in terms of the student teachers' Rokeach Dogmatism change scores between pre and post test. The diagram below describes the schema used

to test Hypothesis IV.

Figure III
Student Teachers

		High Attitude	Low Attitude
<u>Cooperating</u> <u>Teachers</u>	Low Attitude	Rokeach change scores of student teachers	Rokeach change scores of student teachers
	High Attitude	Rokeach change scores of student teachers	Rokeach change scores of student teachers

The results of the two way analysis of variance are shown in Table 12.

Table 12

Student Teachers	1	12.313	12.313	.252
Cooperating Teachers	1	6.750	6.750	.138
Interaction	1	23.487	23.487	.482
Subjects within groups	26	9483.662	364.756 ÷ 7.490= 48.699	

$$F(.05) (1.26) = 4.2252$$

The student teacher effect yielded a non significant F value of .252. The cooperating teacher effect yielded a non-significant F value of .138. The interaction effect yielded a non-significant F

value of .482.

No significant F values at the .05 level were found for hypothesis IV. The null hypothesis that no differences exist in the degree of dogmatism change of student teachers regardless of their level of attitude and that of their cooperating teachers was not rejected.

Hypothesis V

No differences will exist in the degree of attitude change of student teachers regardless of their level of dogmatism and that of their cooperating teachers.

The relationship of attitude changes of student teachers to the initial level of dogmatism of student teachers and their cooperating teachers was examined by two way analysis of variance. Student teachers and cooperating teachers were divided into high and low dogmatic groups depending on whether their pre-test Rokeach Dogmatism Scores fell above or below the median of their respective groups. A two by two analysis of variance design was used to measure significant differences in terms of the student teachers' MTAI change scores between pre and post test. The diagram below describes the schema used to test Hypothesis V.

Figure IV
Student Teachers

		High Dogmatic	Low Dogmatic
<u>Cooperating</u> <u>Teachers</u>	Low Dogmatic	MTAI change scores of student teachers	MTAI change scores of student teachers
	High Dogmatic	MTAI change scores of student teachers	MTAI change scores of student teachers

Table 13

Student Teachers	1	70.434	70.434	.500
Cooperating Teachers	1	79.077	79.077	.562
Interaction	1	217.577	217.577	1.547
Subjects within Groups	26	26586.216	1022.546 + 7.272= 140.614	

$$F(.05) (1.26) = 4.2252$$

The effect of initial level of dogmatism of student teachers on MTAI change scores yielded a non-significant F value of .500. The effect of initial level of dogmatism of cooperating teachers on MTAI change scores yielded a non-significant F value of .562. The interaction effect yielded a non-significant F value of 1.547. Those student teachers who were placed with cooperating teachers judged as having the same level of dogmatism showed less attitude change on the average than did student teachers who were placed with cooperating teachers judged as having different levels of dogmatism. The least amount of mean attitude change occurred with high dogmatic cooperating teachers. The greatest amount of mean attitude change occurred with high dogmatic student teachers placed with low dogmatic cooperating teachers.

No significant F values at the .05 level were found for Hypothesis V. The null hypothesis that no differences exist in the degree of attitude change of student teachers regardless of their level of

dogmatism and that of their cooperating teachers was not rejected.

Hypothesis VI

That no differences exist in the degree of dogmatism change of student teachers regardless of their level of dogmatism and that of their cooperating teachers.

The relationship of dogmatism change of student teachers to the initial level of dogmatism of student teachers and cooperating teachers was examined by two way analysis of variance. Student teachers and cooperating teachers were divided into high and low dogmatic groups depending on whether their pre-test Rokeach Dogmatism scores fell above or below the median of their respective groups. A two by two analysis of variance design was used to measure significant differences in terms of the student teachers' Rokeach Dogmatism change scores between pre and post-test. The diagram below describes the schemes used to test Hypothesis VI.

Figure V

Student Teachers

		High Dogmatic	Low Dogmatic
<u>Cooperating</u>	Low Dogmatic	Rokeach change scores of student teachers	Rokeach change scores of student teachers
	High Dogmatic	Rokeach change scores of student teachers	Rokeach change scores of student teachers

The results of the two way analysis of variance are shown in Table 14.

Table 14

	df	M.S.	S.S.	F
Student Teachers	1	266.979	266.979	6.435
Cooperating Teachers	1	1.886	1.886	.045
Interaction	1	18.101	18.101	.436
Subjects within groups	26	75843.578	301.676 ÷ 7.272= 41.484	

$$F(.05) (1.26) = 4.2252$$

An F value of 6.435, significant at the .05 level ($F .05 = 4.2252$), was found between high and low dogmatic student teachers. Those student teachers who were low on the pre-test Rokeach Dogmatism Scale scored on the average significantly higher on the post-test than those student teachers who were initially high on the Rokeach Dogmatism Scale. The student teachers who were relatively more open minded at the beginning of student teaching on the average became significantly more close minded at the end of student teaching when compared to student teachers who were initially identified as high dogmatic or closed minded. The initial level of dogmatism of cooperating teachers yielded a non-significant F value of .045. The interaction effect yielded a non-significant F value of .436.

CHAPTER V

SUMMARY AND CONCLUSIONS

Purpose of the Study. The major problem examined in this study was the relationship of student teachers' attitude and dogmatism change to student teachers' and cooperating teachers' strengths and weaknesses in the teaching behavior categories of Group Alerting, Class Participation, Reinforcement, and Accountability. Also examined were the effects of the attitudes and dogmatism, prior to student teaching, of the student teachers and the cooperating teachers on the degree of attitude and dogmatism change of the student teachers.

The Sample. The sample of the present study was composed of 33 student teachers enrolled in the School of Education at the University of Massachusetts and 33 cooperating teachers in the neighboring communities of Westfield, Springfield, Belchertown, Northampton, and Greenfield. Because of a campus strike, post test data was gathered on only 30 student teachers. All of the student teachers were majoring in elementary education and completed their student teaching during the spring semester of 1970.

The Method. Two instruments were used to measure the attitudes and dogmatism of the student teachers and the cooperating teachers. The two instruments were: (1) the Minnesota Teacher Attitude Inventory and (2) the Rokeach Dogmatism Scale, Form E. The Steward modification of the Kounin Teacher Management Codes were used to describe the classroom behavior of the student and the cooperating teacher.

The MTAI and the Rokeach Dogmatism Scale were administered to the student teachers and the cooperating teachers twice; once, prior

to the beginning of the student teaching experience and once, at the end of the student teaching experience.

The student teachers were required to teach a lesson approximately ten minutes in length on a subject of their choice to small groups of intermediate grade students, prior to their actual student teaching experience. The cooperating teachers were asked to teach a lesson approximately twenty minutes in length on a subject of their choice prior to being assigned a student teacher. Both of these lessons were videotaped and rated at two minute intervals by trained raters. Each of the tapes was rated by two trained observers using the Steward modification of the Kounin Teacher Management Codes. The student teaching assignments were made on the basis of the scores of the cooperating teachers and the student teachers on the teaching behavior categories of Group Alerting, Accountability, Reinforcement, and Class Participation.

Statistical Treatment of the Data. The data obtained from the MTAI, the Rokeach Dogmatism Scale, and the Steward modification of the Kounin Teacher Management Codes was analyzed at the .05 level of significance according to procedures set up by Dr. Gerald Lunney, Director of Educational Research at Long Island University. The statistical procedures used were t tests, one way analysis of variance, and two way analysis of variance.

The Findings. There was a change, significant at the .005 level, in the student teachers' attitudes as a group, concerning children and teaching, as expressed on the Minnesota Teacher Attitude Inventory. There was a mean negative attitude change of 28.4 points indicating,

on the average, significantly more negative feelings towards children and teaching after the student teaching experience. There was no significant change in student teachers' dogmatism scores, as a group, from the beginning to the end of student teaching. There was no significant change in cooperating teachers' attitude and dogmatism scores, as a group, from the beginning to the end of the student teaching experience.

Twenty-five student teachers moved in a negative direction from pre-test to post-test on their MTAI scores. Twenty three of the student teachers post test MTAI scores moved in the direction of their cooperating teachers' MTAI scores, and six student teachers' post-test MTAI scores moved in an opposite direction from their cooperating teachers' MTAI scores. Thirteen student teachers moved in a negative direction, became more open minded, and sixteen student teachers moved in a positive direction, became more closed minded, from pre-test to post-test on their Rokeach Dogmatism Scale scores. Nineteen of the student teachers' post-test dogmatism scores moved in the direction of their cooperating teachers' dogmatism score and eight student teachers' post-test dogmatism scores moved in an opposite direction from their cooperating teachers' dogmatism scores.

The null hypothesis (Hypothesis I) that no differences exist in the degree of attitude and dogmatism change of student teachers regardless of their matched performance in each of the teaching behavior categories of Group Alerting, Class Participation, and Accountability was not rejected. It was rejected, however, for student teachers' attitude change as measured by the MTAI for the teaching

behavior category of Reinforcement. Student teachers placed with cooperating teachers rated weak in the teaching behavior category of Reinforcement showed a significantly greater decrease, on the average, on MTAI scores than student teachers placed with cooperating teachers rated strong in Reinforcement. The mean attitude change was the least for student teachers who were judged the same as their cooperating teachers on the teaching behavior of Reinforcement. The smallest mean attitude change was for student teachers rated strong in Reinforcement matched with cooperating teachers rated strong in Reinforcement. The largest mean attitude change was for student teachers rated strong in Reinforcement matched with cooperating teachers rated weak in Reinforcement.

Although significant differences were found only in the teaching behavior category of Reinforcement in terms of student teacher attitude change, trends which were statistically non-significant were also noted. Those student teachers who were rated weak in Group Alerting tended on the average to show greater negative attitude change than those student teachers who were rated strong in Group Alerting. Those student teachers who were placed with cooperating teachers rated weak in Class Participation tended on the average to show greater negative attitude change than those student teachers who were placed with cooperating teachers rated strong in Class Participation. Those student teachers who were rated strong in Group Alerting tended on the average to show a greater increase in dogmatism score than those student teachers rated weak in Group Alerting. In the category of Reinforcement, the mean dogmatism change was the least for student

teachers who were judged the same as their cooperating teacher. The smallest mean dogmatism change was for student teachers rated weak matched with cooperating teachers' rated weak in Reinforcement. The largest mean dogmatism change was for student teachers' rated strong matched with cooperating teachers' rated weak in Reinforcement. These last three trends are noted strictly in terms of placement within the teaching behavior category of Reinforcement.

There was no significant change in student teachers' attitude and dogmatism scores in relation to the similarity of the teaching behavior of the student teachers to that of their cooperating teachers. Hypothesis II, which stated that no differences would exist in the degree of attitude and dogmatism change of student teachers regardless of the similarity of their teaching behavior to that of their cooperating teachers, was not rejected.

Hypothesis III, which stated that no differences would exist in the degree of attitude change of student teachers regardless of their level of attitude and that of their cooperating teachers, was not rejected; however, the effect of the initial level of attitudes of student teachers on MTAI change scores yielded an F value of 3.382, significant at the .10 level ($F_{.10} = 2.90$). Student teachers with high initial attitudes as measured by the MTAI showed, on the average, a greater negative attitude change than student teachers who had relatively low initial levels of attitude.

No significant relationship was found between the dogmatism change scores of student teachers and their level of attitude as measured by the MTAI and that of their teachers. Hypothesis IV, which

stated that no differences would exist in the degree of dogmatism change of student teachers, regardless of their level of attitude and that of their cooperating teachers, was not rejected.

No significant relationship was found between the attitude change scores of student teachers and their level of attitude and that of their cooperating teachers. Hypothesis V, which stated that no differences would exist in the degree of attitude change of student teachers regardless of their level of dogmatism and that of their cooperating teachers, was not rejected.

Hypothesis VI, which stated that no differences would exist in the degree of dogmatism change of student teachers regardless of their level of dogmatism and that of their cooperating teachers, was rejected. An F value of 6.435, significant at the .05 level ($F_{.05} = 4.2252$) was found between high and low dogmatic student teachers. Those student teachers who were low on the pre test Rokeach Dogmatism Scale scored, on the average, significantly higher on the post-test than those student teachers who were initially high on the Rokeach Dogmatism Scale. The student teachers who were relatively more open minded at the beginning of student teaching, on the average, became more close minded at the end of student teaching when compared to student teachers who were initially identified as high dogmatic or close minded.

Conclusions

According to the purposes set up for this study and within the limitations established in the study, the following conclusions have

been drawn:

1. Little relationship seems to exist between student teacher - cooperating teacher performance on the Steward modification of the Kounin Teacher Management Codes and the attitude and dogmatism change of student teachers as measured by the Minnesota Teacher Attitude Inventory and the Rokeach Dogmatism Scale. The only significant relationship was found between student teachers' attitude change and cooperating teacher performance in the teaching behavior Category of Reinforcement. Student teachers placed with cooperating teachers rated weak in Reinforcement showed, on the average, a significantly greater decrease on MTAI scores than did student teachers placed with cooperating teachers rated strong in Reinforcement. This lack of correlation between attitude and dogmatism change of student teachers and cooperating teachers in the teaching behavior categories of Group Alerting, Class Participation, and Accountability would indicate that these descriptions of teaching behavior are not relevant indicators of attitude and dogmatism change of student teachers.
2. The attitude and dogmatism change of student teachers is not related to the attitude and dogmatism level of student teachers and cooperating teachers prior to student teaching. The attitude change of student teachers is not related to the dogmatism level of student teachers and cooperating teachers and cooperating teachers prior to student teaching; a significant relationship did exist however, between the

high and low dogmatic student teacher and their degree of dogmatism change. Student teachers who were initially low in dogmatism as measured by the Rokeach Dogmatism Scale showed significantly greater change, on the average, becoming more dogmatic than student teachers who were rated as relatively high in dogmatism prior to student teaching.

3. Student teachers tend to move in the direction of the attitudes and dogmatism of their cooperating teachers. Student teachers in general moved in the direction of their cooperating teachers' attitudes and dogmatism as measured by the MTAI and the Rokeach Dogmatism Scale. Twenty-three student teachers moved in the direction of their cooperating teachers on their MTAI post-test, and six moved in the opposite direction. Nineteen of the student teachers moved in the direction of their cooperating teachers on their Rokeach post-test, and eight moved in the opposite direction.
4. Although the primary purpose of this study was to investigate student teachers' attitude and dogmatism change in relation to the attitudes, dogmatism and behavior of their cooperating teachers, t tests were carried out to determine if student teachers and cooperating teachers, as groups, had shown significant attitude and dogmatism changes after participating in the study. Significant differences at the .005 level were found between student teacher's pre and post test MTAI scores. Cook, Leeds, and Callis (1951) report that after student teaching there is usually a shift in attitudes measured by

the MTAI. The mean score reported by them for elementary education majors, prior to student teaching, was 59.5. The mean in the present study, prior to student teaching, was 62.166. Cook, Leeds, and Callis report a mean of 77.4 for elementary education majors after student teaching has been completed, indicating a positive attitude change towards children and teaching after their student teaching experience. The mean in the present study at the end of student teaching was 33.766, a negative shift of 28.4 points, indicating a negative attitude change toward children and teaching after their student teaching experience. The elementary education majors at the University of Massachusetts moved from approximately the seventy-fifth percentile in MTAI mean score to the fifth percentile in MTAI mean score after student teaching. In the course of informal talks held with the student teachers during the student teaching period, the student teachers mentioned quite often how ill prepared they felt to teach. If this is the case, the School of Education at the University of Massachusetts should critically analyze how adequately it is fulfilling its primary function, i.e. preparing future elementary school teachers. It is possible that in the course of carrying out all these experimental programs "in the interest of science", the School of Education including, the writer of this study, has inadvertently neglected the needs of its elementary education students.

The major purpose of this research study was to analyze the student teacher - cooperating teacher relationship in order to determine some of the significant variables involved in setting up student teaching assignments which provide for the optimum growth of the student teacher. The Steward modification of the Kounin Teacher Management Codes were used for the first time as a vehicle for placing student teachers with cooperating teachers. Its usefulness was to be determined by analyzing changes in the attitudes and dogmatism of student teachers in terms of the strengths and weakness of the student teachers and cooperating teachers in the various teaching behavior categories. In general, these codes did not sufficiently identify pertinent types of teaching style which are related to patterns of student teacher attitude and dogmatism change.

If more is to be learned about what is involved in setting up student teacher-cooperating teacher relationships that allow for maximum development of the potential of the student teacher, extensive investigation must be continued into various aspects of the behavior and personality of both the student teacher and the cooperating teacher and the relationship of these variables to successful teaching.

BIBLIOGRAPHY

- Barr, A. S. and Emons, L. M. What qualities are prerequisite to success in student teaching? Nation Schools, 1930, 6, 60-64.
- Biddle, B. J. and Ellena, W. J. (Eds.) Contemporary Research on Teacher Effectiveness. New York: Holt, 1964.
- Bills, R. Student teacher personality change as a function of the personality of supervising and cooperating teachers. Project S-020, United States Office of Education, Alabama University, 1964.
- Callis, R. Change in teacher-pupil attitudes related to training and experience. Educational and Psychological Measurement, 1950, 10, 718-727.
- Callis, R. The efficiency of the MTAI for predicting interpersonal relations in the classroom. Journal of Applied Psychology, 1953, 37, 82-85.
- Cappelluzzo, E. M. and Brine, J. Dogmatism and prospective teachers. Journal of Teacher Education, 1969, 20, 148-152.
- Chaltas, J. G. Student teaching: assignment and misassignment. Journal of Teacher Education, 1965, 16, 311-318.
- Charters, W. W. The Commonwealth Teacher Training Study. Chicago: University of Chicago Press, 1929.
- Cook, W. W. and Leeds, C. H. Measuring the teaching personality. Educational and Psychological Measurement, 1947, 7, 399-410.
- Cook, W. W., Leeds, C. H. and Callis, R. Minnesota Teacher Attitude Inventory. New York: Psychological Corporation, 1951.
- Corrigan, D. C. and Griswald, K. E. Attitude changes of student teachers. Unpublished doctoral dissertation, Columbia University, 1961.
- Corrigan, D. C. and Griswald, K. E. Attitude changes of student teachers. Journal of Educational Research, 1963, 57, 93-95.
- Coss, A. F. A comparative analysis of the expressed attitudes of elementary education students, their university instructors, and their supervising teachers toward pupil-teacher relations as measured by the Minnesota Teacher Attitude Inventory. Unpublished doctoral dissertation, Indiana University, 1959.

- Day, H. P. Attitude changes of beginning teachers after initial teaching experience. Journal of Teacher Education, 1959, 10, 326-328.
- Del Popolo, J. A. Authoritarian trends in personality as related to attitudinal and behavioral traits of student teachers. Journal of Educational Research, 1960, 53, 252-257.
- Dutton, W. H. Attitude change of elementary school student teachers and anxiety. Journal of Educational Research, 1962, 55, 380-382.
- Ebel, R. L. (Ed.) Encyclopedia of Educational Research. Fourth edition. American Educational Research Association, Macmillan Company, 1969.
- Elliot, R. J. Changes in openness of student teachers as a function of openness of supervising teachers and cooperating teachers. Unpublished doctoral dissertation, University of Alabama, 1964.
- Emmerling, F. C. A study of the relationship between personality characteristics of classroom teachers and pupil perceptions of their teachers. Unpublished doctoral dissertation, Auburn University, 1961.
- Frank, J. Attitude change of secondary school student teachers during student teaching. Unpublished doctoral dissertation, University of Texas, 1967.
- Freeze, C. R. A study of openness as a factor in change of student teachers. Unpublished doctoral dissertation, University of Alabama, 1963.
- Gage, N. L. (Ed.) Handbook of Research on Teaching. Chicago: Rand McNally & Co., 1963.
- Getzels, J. W. and Jackson, P. W. The teacher's personality and characteristics. Chapter XI, Handbook of Research on Teaching. Edited by N. L. Gage. Chicago: Rand McNally & Co., 1963, 506-582.
- Hanny, R. J. The relationship between selected personality characteristics and teacher verbal behavior. Unpublished doctoral dissertation, Ohio State University, 1966.
- Hill, N. J. A comparative study of student teaching performance resulting from matching student teachers with supervising teachers. Unpublished doctoral dissertation, State University of New York at Buffalo, 1969.

- Holl, F. B. An analysis of student teacher changes in attitude in relation to attitudes held by their supervising teachers. Unpublished doctoral dissertation, University of Tennessee, 1967.
- Horowitz, M. Student teaching experiences and attitudes of student teachers. Journal of Teacher Education, 1968, 19, 317-324.
- Hough, J. B. and Amidon, E. An experiment in pre-service teacher education. Unpublished paper, American Educational Research Association, 1964.
- Johnson, J. S. Change in student teaching dogmatism. Journal of Educational Research, 1969a, 62, 224-226.
- Johnson, J. S. Dogmatism: a variable in the prediction of student teaching performance. Contemporary Education, 1969b, 41, 14-18.
- Kinard, C. R. A study of changes in openness of student teachers during the student teaching experience. Unpublished doctoral dissertation, Louisiana State University, 1968.
- Kounin, J. S. and Gump, P. V. The ripple effect in discipline. Elementary School Journal, 1958, 59, 158-162.
- Kounin, J. S. and Gump, P. V. The comparative influence of punitive and non-punitive teachers upon children's concepts of social misconduct. Journal of Educational Psychology, 1961, 52, 44-49.
- Kounin, J. S., Gump, P. V., and Ryan, J. J. Explorations in classroom management. Journal of Teacher Education, 1961, 12, 235-246.
- Kounin, J. S. An analysis of teacher's managerial techniques. Psychology in the Schools, 1967, 4, 221-227.
- Kounin, J. S. and Obradovic, S. Managing emotionally disturbed children in regular classrooms: a replication and extension. The Journal of Special Education, 1968, 2(2), 129-135.
- Leeds, C. H. A scale for measuring teacher-pupil attitudes and teacher-pupil rapport. Psychological Monograph, 1950, 64, No. 312.
- Leeds, C. H. A second validity study of the Minnesota Teacher Attitude Inventory. Elementary School Journal, 1952, 52, 396-405.
- Libscomb, E. A study of the attitudes of student teachers in elementary education. Journal of Educational Research, 1966, 60, 159-163.
- McAulay, J. D. How much influence has a cooperating teacher? Journal of Teacher Education, 1960, 11, 79-83.

- McCullough, H. E. Comparison of the change in attitudes toward youth of two selected groups of student teachers. Unpublished doctoral dissertation, North Texas State College, 1962.
- McEwin, T. Attitudinal change of students during methods courses and student teaching. Unpublished doctoral dissertation, East Texas State University, 1968.
- McFadden, J. D. The discrimination of student teaching performance on the basis of psychological attributes. Journal of Educational Research, 1968, 61, 215-217.
- Michaelis, J. U. Teacher education--student teaching and internships. Encyclopedia of Educational Research, Third edition, New York, 1960.
- Morrison, V. B. and Childs, J. Strategies for the application of videotape in teacher education. Audio-Visual Instructor, 1969, 14, 43-48.
- Muto, N. F. A study of changes in teaching style during the student teaching experience. Unpublished doctoral dissertation, 1967.
- Newsome, G. L., Jr., et al. Changes in consistency of educational ideas attributed to student-teaching experiences. Journal of Teacher Education, 1965, 16, 319-323.
- Ober, R. I. Predicting student teacher verbal behavior. Unpublished doctoral dissertation, Ohio State University, 1966.
- Osman, R. V. Associative factors in changes of student teachers' attitudes during student teaching. Unpublished doctoral dissertation, University of Indiana, 1958.
- Price, R. D. The influence of supervising teachers. Journal of Teacher Education, 1961, 12, 471-475.
- Rabkin, L. Y. The dogmatism of teachers. Journal of Teacher Education, 1966, 17, 47-49.
- Ragsdale, E. M. Attitude changes of elementary student teachers and the changes in their classroom behavior during student teaching. Unpublished doctoral dissertation, Ohio State University, 1966.
- Renfro, V. R. A study of the relationship between selected influences and changes of attitudes toward pupils that occur during the eighteen week student teaching experience. Unpublished doctoral dissertation. Oklahoma State University, 1965.
- Rokeach, M. The Open and Closed Mind. New York: Basic Books, 1960.

- Ryans, D. G. Characteristics of Teachers. Washington, D. C.: American Council on Education, 1960.
- Ryans, D. G. Assessment of teacher behavior and instruction. Review of Educational Research, 1960.
- Sandgren, D. and Schmidt, L. G. Does practice teaching change attitudes toward teaching? Journal of Educational Research, 1956, 49, 673-680.
- Scott, O. and Brinkley, S. G. Attitude changes of student teachers and validity of the Minnesota Teacher Attitude Inventory. Journal of Educational Psychology, 1960, 51, 76-81.
- Soderbergh, P. A. Dogmatism and the public school teacher. Journal of Teacher Education, 1964, 15, 245-251.
- Steward, M. S. and Steward, D. S. Unpublished manuscript, Emory University, 1969.
- Stratemeyer, F. B. and Lindsey, M. Working with student teachers. New York: Teachers College, Columbia University, 1958.
- Strom, I. M. Leadership through research. Associates for Student Teaching, State College of Iowa, 1961, 1.
- Weir, E. C. The open mind: an essential in teaching and learning. The Educational Forum, 1963, 27, 429-435.
- Weiss, D. Closed circuit television and teacher education. Education Forum, 1962, 26, 229-231.
- Yee, A. H. Interpersonal relationships in the student teaching triad. Journal of Teacher Education, 1968, 19, 95-112.
- Yee, A. H. Do cooperating teachers influence the attitudes of student teachers? Journal of Educational Psychology, 1969, 60, 327-332.
- Zahn, R. Use of interaction analysis in supervising student teachers. Unpublished doctoral dissertation, Temple University, 1964.

APPENDIX

COOPERATING TEACHERS' TEST SCORES

Cooperating Teachers	MTAI POST	MTAI PRE	ROKEACH POST	ROKEACH PRE
1	79	81	93	149
2	-2	28	154	133
3	39	37	139	145
4	12	-4	173	118
5	25	16	135	120
6	41	50	126	127
7	-27	0	187	152
8	68	81	128	121
9	73	75	168	173
10	17	32	111	140
11	75	86	134	129
12	80	71	116	113
13	8	20	161	152
14	-13	-34	151	159
15	55	29	127	133
16	50	66	109	109
17	77	72	150	132
18	28	41	147	116
19	75	54	114	132
20	58	37	126	112
21	39	48	102	109
22	94	59	111	101
23	16	55	154	127
24	-10	-8	162	163
25	95	92	86	82
26	25	34	122	109
27	38	31	150	160
28	58	18	152	156
29	13	8	188	165
30	39	55	182	182
31	104	96	92	84
32	54	72	147	136
33	64	49	120	117

STUDENT TEACHERS' TEST SCORES

Student Teachers	MTAI POST	MTAI PRE	ROKEACH POST	ROKEACH PRE
1		93		124
2	69	77	118	145
3		83		96
4	-3	38	161	146
5	17	81	71	65
6	9	79	127	129
7	53	87		112
8	91	59	99	99
9	81	52	125	129
10	56	47	132	127
11	28	33	129	133
12	77	86	145	138
13	0	74	165	129
14	-7	45	166	113
15	-17	46	124	125
16	36	66	130	158
17	-24	14	134	116
18	-18	83	126	112
19	-15	56	158	116
20	64	81	117	129
21	48	96	136	154
22	55	73	142	138
23	61	72	94	84
24	50	37	145	172
25	26	20	118	113
26	33	83	125	109
27		95	103	103
28	45	49	136	156
29	27	50	134	130
30	67	83	138	152
31	68	84	95	74
32	45	77	104	100
33	-9	35	174	140

ABSTRACT

Purpose of the Study. The major problem examined in this study was the relationship of student teachers' attitude and dogmatism change to student teachers' and cooperating teachers' strengths and weaknesses in the teaching behavior categories of Group Alerting, Class Participation, Reinforcement, and Accountability. Also examined were the effects of the attitudes and dogmatism, prior to student teaching, of the student teachers and the cooperating teachers on the degree of attitude and dogmatism change of the student teachers.

The sample of the present study was composed of 33 student teachers enrolled in the School of Education at the University of Massachusetts and 33 cooperating teachers in the neighboring communities of Westfield, Springfield, Belchertown, Northampton, and Greenfield.

The Method. Two instruments were used to measure the attitudes and dogmatism of the student teachers and the cooperating teachers. The two instruments were: (1) the Minnesota Teacher Attitude Inventory and (2) the Rokeach Dogmatism Scale, Form E. The Steward modification of the Kounin Teacher Management Codes were used to describe the classroom behavior of the student and the cooperating teacher.

The MTAI and the Rokeach Dogmatism Scale were administered to the student teachers and the cooperating teachers twice; once, prior to the beginning of the student teaching experience and once, at the end of the student teaching experience.

The student teachers were required to teach a lesson approximately ten minutes in length on a subject of their choice to small groups of intermediate grade students, prior to their actual student teaching experience. The cooperating teachers were asked to teach a lesson approximately twenty minutes in length on a subject of their choice prior to being assigned a student teacher. Both of these lessons were videotaped and rated at two minute intervals by trained raters. Each of the tapes was rated by two trained observers using the Steward modification of the Kounin Teacher Management Codes. The student teaching assignments were made on the basis of the scores of the cooperating teachers and the student teachers on the teaching behavior categories of Group Alerting, Accountability, Reinforcement, and Class Participation. The statistical procedures used to analyze the data were t tests, one-way analysis of variance, and two-way analysis of variance.

Conclusions.

1. Little relationship seems to exist between student teacher-cooperating teacher performance on the Steward modification of the Kounin Teacher Management Codes and the attitude and dogmatism change of student teachers as measured by the Minnesota Teacher Attitude Inventory and the Rokeach Dogmatism Scale. The only significant relationship was found between student teachers' attitude change and cooperating teacher performance in the teaching behavior Category of Reinforcement. Student teachers placed with cooperating teachers

rated weak in Reinforcement showed, on the average, a significantly greater decrease on MTAI scored than did student teachers placed with cooperating teachers rated strong in Reinforcement. This lack of correlation between attitude and dogmatism change of student teachers and cooperating teachers in the teaching behavior categories of Group Alerting, Class Participation, and Accountability would indicate that these descriptions of teaching behavior are not relevant indicators of attitude and dogmatism change of student teachers.

2. The attitude and dogmatism change of student teachers is not related to the attitude and dogmatism level of student teachers and cooperating teachers prior to student teaching. The attitude change of student teachers is not related to the dogmatism level of student teachers and cooperating teachers and cooperating teachers prior to student teaching; a significant relationship did exist however, between the high and low dogmatic student teacher and their degree of dogmatism change. Student teachers who were initially low in dogmatism as measured by the Rokeach Dogmatism Scale showed significantly greater change, on the average, becoming more dogmatic than student teachers who were rated as relatively high in dogmatism prior to student teaching.
3. Student teachers tend to move in the direction of the attitudes and dogmatism of their cooperating teachers. Student teachers in general moved in the direction of their cooperating teachers'

attitudes and dogmatism as measured by the MTAI and the Rokeach Dogmatism Scale. Twenty-three student teachers moved in the direction of their cooperating teachers on their MTAI post-test, and six moved in the opposite direction. Nineteen of the student teachers moved in the direction of their cooperating teachers on their Rokeach post-test, and eight moved in the opposite direction.

4. Although the primary purpose of this study was to investigate student teachers' attitude and dogmatism change in relation to the attitudes, dogmatism and behavior of their cooperating teachers, t tests were carried out to determine if student teachers and cooperating teachers, as groups, had shown significant attitude and dogmatism changes after participating in the study. Significant differences at the .005 level were found between student teachers' pre and post test MTAI scores. Cook, Leeds, and Callis (1951) report that after student teaching there is usually a shift in attitudes measured by the MTAI. The mean score reported by them for elementary education majors, prior to student teaching, was 59.5. The mean in the present study, prior to student teaching, was 62.166. Cook, Leeds, and Callis report a mean of 77.4 for elementary education majors after student teaching has been completed, indicating a positive attitude change towards

children and teaching after their student teaching experience. The mean in the present study at the end of student teaching was 33.766, a negative shift of 28.4 points, indicating a negative attitude change toward children and teaching after their student teaching experience.



