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### thesis entitled THE RELATIONSHIP OF THREE TYPES OF FIELD EXPERIENCE PROGRAMS TO STUDENT TEACHER OPEN-MINDEDNESS, ATTITUDES TOWARD EDUCATION, AND RECEPTIVITY TO INNOVATIONS

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# THE RELATIONSHIP OF THREE TYPES OF FIELD EXPERIENCE PROGRAMS TO STUDENT TEACHER OPEN-MINDEDNESS, ATTITUDES TOWARD EDUCATION, AND RECEPTIVITY TO INNOVATION

By

Royston Kelleher

### A DISSERTATION

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

College of Education

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#### ABSTRACT

### THE RELATIONSHIP OF THREE TYPES OF FIELD EXPERIENCE PROGRAMS TO STUDENT TEACHER OPEN-MINDEDNESS, ATTITUDES TOWARD EDUCATION, AND RECEPTIVITY TO INNOVATION

By

### Royston Kelleher

This study investigated the outcomes of three types of field experiences for preservice teachers. Specifically, three questions were posed.

- Do differences initially exist among three groups of students (those who participate in (a) a combined course-work, field experience program, (b) an overseas cross-cultural practicum, and (c) a normal student teaching term) with regard to the following; open-mindedness, progressive/traditional attitudes toward education, and receptivity to educational innovation?
- 2. Do differences exist among the three groups with regard to changes in (a) degree of open-mindedness, (b) extent of progressive/traditional attitudes toward education, and (c) level of receptivity to educational innovation experienced during the programs?

3. What are the relationships among certain biographic variables and open-mindedness, progressive/traditional attitudes toward education and receptivity to educational innovations?

Pre-tests were administered to one-half of the subjects in each practicum group at the beginning of the term and all students were post-tested at the end of the term. Instruments used were the shortform Dogmatism Scale, the Education Scale VII, and an author-designed Receptivity to Educational Innovation Scale.

Significant findings were:

- Those who enrolled in the overseas student teaching program were initially more open-minded than were students in the other two programs.
- After completion of the student teaching term, students in the overseas program were even more open-minded than at the beginning and were significantly more open-minded than the other students.
- 3. Females were significantly more open-minded and more receptive to educational innovation than were males. Prospective elementary teachers were significantly less traditional and more receptive to innovation than were prospective secondary teachers.
- 4. A significant difference existed between the post-test scores of those who completed the pre-test and those who had not completed the pre-test. Those who completed the pre-test had significantly higher progressivism scores on the post-test.

Dedicated to Michael and Susan

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#### ACKNOWLEDGMENTS

Nothing arises <u>ex nihilio</u>; particularly so with a piece of writing. It is the product of numerous formative experiences some of which leave indelible impressions while others become critical incidents in unconscious history. Of the multiplicity of interactions I have experienced in the recent past, some stand out. Those contacts with Dr. Henry Kennedy, my committee chairman and thesis director, and with the members of my committee, Dr. Stanley Wronski, Dr. Kenneth Harding, and Dr. John Cragun are particularly indelible. To them I owe much.

To my parents who fostered a love of learning I owe more than I am capable of expressing.

To my wife, Grace, my debt is inestimable. A listing of the contributions she has made would fill many pages.

Finally, to the administrators of Memorial University of Newfoundland who granted permission for the study and helped in other tangible ways, I express my gratitude.

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### CHAPTER I

### THE PROBLEM

### Introduction

Proverbially all roads lead to Rome, albeit not all equally swiftly and not all equally safely. Neither do they all provide identical vistas upon entry to that eternal city. In fact some routes may be so poorly signposted as to leave one confused regarding the exact point at which the city limits were actually crossed. And once inside the city, specialized maps may be required to facilitate choices among the bewilderingly tangled webs of routes available.

This analogy is particularly appropriate in illuminating any attempt to choose a way into doing or describing research on teacher education. There is not just one way but rather any number of them, and before deciding upon any one particular pathway or upon whether to blaze a new trail, it is necessary to consider the variety already available.

This chapter represents an attempt to delineate the extent of that variety in order to provide a context within which to situate the problem under study. That problem is an assessment of the differential outcomes of three types of student teaching practica upon the students involved. The three programs are a cross-cultural student teaching program, a normal home-based student teaching program and, a combined course-work, field-work program. The specific outcomes to be studied

are the level of openmindedness, the extent of progressive/traditional attitudes toward education, and the degree of receptivity to educational innovation of the prospective teachers in each of the three programs.

This particular problem must be viewed within the more general context of research on teacher education.

### The Context--Research on Teacher Education

Until quite recently, research on teaching had produced a voluminous void. The essence of that enigmatic paradox lay in a profusion of published studies and research reports on one hand compared with a paucity of conclusive findings and definitive results on the other. While there was much to be read there was little on which to rely.

Of particular chagrin to those involved in the education of teachers, there existed a dearth of dependable, substantive evidence regarding the relationships between teacher characteristics and teaching behaviors on one side of the equation and measures of teaching effectiveness on the other side. After examining nine earlier reviews of research on teaching Doyle (1978) observed that, "Reviewers have concluded, with remarkable regularity, that few consistent relationships between teacher variables and effectiveness criteria can be established" (p. 164). In a similar conclusion Shavelson and Dempsey (1976) noted that pedagogical research had not ". . . identified consistent replicable features of human teaching that lead directly--or even indirectly--to valued student outcomes" (p. 553). Gage (1963), AERA (1952), and Berliner (1976) have all echoed corresponding conclusions.

Given this apparent void the task of validating various curricula and components of teacher education programs may be an insurmountable

problem. Presumably it is the purpose of pre-service preparation to develop within teacher candidates those attitudes, bodies of knowledge, and behaviors that have been demonstrated to promote pupil outcomes in terms of achievement along desired lines. If, however, connections between the set of teacher characteristics and behaviors and the set of desired pupil outcomes are indeterminate and possibly indeterminable, then teacher education lacks at least one important source of validation. Gage (1977) put this particular problem in focus when he asserted that "What is needed is work that unites the effort to show that a certain kind of teacher behavior is desirable with the effort to show that such behavior can be brought about through teacher education" (p. 60). Figure 1.1 graphically illustrates these relationships.



Figure 1.1 Types of variables and their relationships involved in the evaluation of teacher effectiveness and teacher education (Gage, 1974, p. 8).

The position taken by Gage is indicative of a particular school of thought regarding the manner in which teacher education is to proceed. Variations on the theme that teacher education program effectiveness can or should be measured by pupil outcomes are evident in the work of Medley and Soar (1975), Turner (1975), and Dunkin and Biddle (1974).

This position is reflective of theoretical perspectives of evaluation proposed by Popham (1971), Scriven (1967), and Stufflebeam et al. (1971).

Although the reviews of research on teaching cited earlier have tended to cast doubt upon the possibility of validating teacher education programs ultimately in terms of effect upon pupil outcomes, recent trends, particularly within the last half-decade, seem more promising. The work of Good, Biddle, and Brophy (1975), Soar (1975), Brophy and Evertson (1976), Bennett (1976), and Rosenshine (1976) all highlight significant findings which have the potential for impact upon how teachers are educated. However, these results need replication and verification and must be supplemented by much additional work if the connections alluded to in the foregoing conceptualization of teacher education research can become reality.

The underlying assumption of positions such as that taken by Gage is that teacher skills, abilities and behaviors along with various types of pupil learnings have at least the potential for categorization, measurement and prediction. This predominantly positivistic psychometric research paradigm with its emphasis on ". . . objectivism, scientism and technicism . . ." (Heelan, 1977, p. 10) has recently been attacked by an influential segment of the sociological community which advocates alternative approaches variously labeled phenomenology, symbolic interactionism, and ethnomethodology. Adherents of these 'humanistic,' 'ethnographic' approaches reject the assumption that objectivated knowledge adequately represents the world. Instead focus of concern is with the issue of subjective meaning as the basic element of an understanding of the social world. The emphasis is on the consciousness of individuals, that consciousness being ". . . the particular way in which

reality 'out there' is constituted in the mind" (Sharpe and Green, 1975, p. 19). Research in this tradition begins with assumptions that deny the existence of universal laws of human behavior. In contrast with the psychometric paradigm, there are no assumptions of a monolithic, unchanging, objective reality that can be discerned through the senses. While these qualitative approaches have resulted in several insightful studies they do not seem to have been widely adopted for use in the assessment of program effectiveness.

The inevitable conclusion to be reached at this point in time is that "In spite of recent improvements in research in the field, the amount of dependable information available compared to the amount needed to formulate more effective policies and practices in teacher education is miniscule" (Turner, 1975, p. 107). Proverbially, all roads may lead to Rome, however we are a long way yet from the Piazza Venezia.

The wait for reliable, valid answers to the multiplicity of questions posed by pedagogical research will probably be a long one. In the meantime program evaluation must proceed in spite of its many inherent imperfections. In the light of obvious difficulties associated with program assessment, Medley (1972) has suggested, ". . . that a program be evaluated on its effectiveness in producing the change in teachers it is supposed to produce, and that the relationship of the changes to effects on pupils be tested independently of this evaluation" (p. 7).

That practical alternative to the theoretic ideal suggests the approach to be utilized in the present study.

In addition to the criterial problem, there is a dilemma to be resolved regarding the approach to be taken in research on teacher

education. Essentially one is faced with a choice between studying one particular variable and the effects of its manipulation, such as is undertaken in typical experimental studies, or attempting evaluations based on the combined effects of the multiplicity of factors which constitute a total program or program segment. In the first approach, the researcher attempts to ascertain the contribution of a single discrete factor to the desired outcome while the second focuses on total program effects. The second is the method adopted in this study. The advantages and disadvantages of such an approach have been outlined by Lanier and Floden (1978):

Program evaluations can be used to assess the combined effects of a complex combination of components, although the individual contributions of these components cannot be determined. . . .

Program evaluations also provide information on the components as actually implemented, rather than as experimental manipulations in a research setting. . .

The disadvantage of program evaluations is that they yield results which often have extremely limited generalizability. The evaluation might indicate how well an entire program worked in its particular setting but it has little power to predict how parts of the program would work when adapted to other settings. (p. 16)

They conclude, however, that even given this drawback;

Still program evaluations are essential to the improvement of teacher education, since every program of professional education is composed of many components within an administrative structure; it is unreasonable to believe that the interactions, which are likely to be large, will have been assessed by previous research. (p. 17)

#### The Research Site--Student Teaching

With the exception of a few detractors there has been a general consensus of opinion amongst educators, lay people, and students alike that the student teaching practicum is one of the most efficacious of those experiences traditionally offered in teacher preparation programs. In the English speaking world two major national reports have served to reinforce this point of view. In the United States, the influential Conant Report (1963) cited student teaching as the one indisputable essential element in professional education. Likewise in Britain The James Report (1972) stressed the paramount importance of practical experiences for pre-service teachers. More recently a report commissioned by the American Association of Colleges for Teacher Education (Howsam et al., 1976) buttressed this general acceptance of student teaching by stressing the need for involvement with teaching as soon as students enter a teacher preparation program.

The immediate clients of teacher education, the student teachers, tend to overwhelmingly endorse practical experiences as being more valuable than other aspects of their training programs. This favorable view of student teaching tends to be retained after graduation (Bennie 1964; Hermanowicz, 1966; Jay, 1968; Hopkins, 1970; and Wright, 1976). In their review of research in the <u>Second Handbook of Research on Teaching</u>, Peck and Tucker (1973) concluded that ". . . there is ample and impressive testimony that student teaching tends to be the most practical and useful part of pre-service education in the minds of prospective teachers" (p. 967).

This majority view is not surprising when one considers the fact that student teaching is often the only practical experience provided throughout many teacher education programs. However, as indicated earlier, there have been some detractors from this overwhelming endorsement of student teaching.

Some writers have pointed out that student teaching lacks both the theoretical undergirding and the empirical evidence needed to validate its impact. For example, Yee (1968) states

Little attention has been given to the identification of factors that significantly determine the nature of outcomes in student teaching experiences. Not knowing for sure what really matters in student teaching, very little empirical research has been conducted to explain how it affects the candidate in his professional development. Until much greater knowledge is sought and found concerning what variables really matter and how they affect behavior, systematic improvements in student teaching programs will be unlikely. (p. 97)

In a similar vein Peck and Tucker (1973) suggest that although prospective teachers accord preeminence to student teaching ". . . it must nevertheless be recognized that there is a substantial body of evidence suggesting that undefined or ill-defined student teaching is by no means beneficial in its effects" (p. 967).

At the turn of the century, Dewey (1904) highlighted some of the potentially deleterious outcomes of student teaching. He stated:

Now the teacher who is plunged prematurely into the pressing and practical problem of keeping order in the schoolroom has almost of necessity to make supreme the matter of external attention. The teacher has not yet had the training which affords psychological insight--which enables him to judge promptly (and therefore almost automatically) the kind and mode of subject matter which the pupil needs at a given moment to keep his attention moving forward effectively and healthfully. He does know, however, that he must maintain order; that he must keep the attention of the pupils fixed upon his own questions, suggestions, instructions, and remarks, and upon their "lessons." . . . The student (teacher) adjusts his actual methods of teaching, not to the principles which he is acquiring, but to what he sees other teachers doing who are more experienced and successful in keeping order than he is; and to instructions and directions given him by others. In this way the controlling habits of the teacher finally get fixed with comparatively little reference to principles in the psychology, logic, and history of education. (p. 15)

Dewey feared that practice teaching could degenerate into a forum for honing managerial skills designed to maintain classroom order rather than serving as an enlightening experience aimed at fostering those attitudes toward children which would promote learning.

Much criticism of traditional student teaching programs has centered on the theme that student teaching as presently constituted serves only to socialize preservice teachers into that which already exists rather to highlight the way to what ought to be (Iannaconne and Button, 1964; Kaltsounis and Nelson, 1968; Sorenson, 1974; Katz, 1974; Friedenberg, 1973; and Silberman, 1963). The following quotation from Salzillo and Van Fleet (1977) is indicative of the arguments of these critics.

The largest unvalidated segment of professional education programs is the student teaching area. The only function of student teaching which has been identified by research studies is one of socialization into the profession and into the existing arrangements of the schooling bureaucracy. To our knowledge, no study has shown conclusively that student teaching has any unique educational component other than assimilation. Teacher education institutions are, at least partially, defeating their own purposes, when student teaching is allowed to become simply an exercise in adapting new personnel into old patterns. (p. 27)

The main body of empirical support for such criticisms emanates from studies of attitudinal changes experienced by student teachers during the period of their school practice. Those investigations have tended to cast doubt upon the positive effects of traditional practices and procedures (Day, 1959; Dutton, 1962; Hoy, 1967; Jacobs, 1968).

After a review of the findings of a number of those studies, Gage (1968) concluded that particularly following the student teaching experience teachers became less concerned with pupil freedom and more concerned with establishing a stable orderly classroom. This change was accompanied by a decline in the tendency to attribute pupil misbehavior to the teacher or the school. The pupils were more often seen as the source of problems.

In their review of research findings a half a decade later Peck and Tucker (1973) were led to conclude that . . . at least by the end of student teaching there are some almost universally reported decrements in attitude and in teaching behavior, as compared with the starting position of the students prior to their field experience. (p. 967)

Not all studies, however, have found such a downturn of attitudes. For example Perrodin (1961) found that student teachers made significant improvements in professional attitudes after having been involved in a highly-supervised teaching practice.

These differential effects upon attitudes can probably be attributed to the differences among the particular programs and the environments in which student teaching takes place.

The present study explored three distinctive programs in an attempt to ascertain whether, in fact, differences in attitudinal shifts might be associated with variations in programs characteristics and contexts.

#### Background to the Problem

Memorial University of Newfoundland, the only teacher education institution in Canada's most easterly province has an average annual student population of approximately 8,000 full- and part-time students. Of that total, approximately 1,800 are in various stages of completion of preservice teacher education programs. For prospective elementary (K-6) teachers the training program is four years in length, culminating with the granting by the university of the B.A.(Ed.) degree. At the secondary level, the training program is of five years duration satisfying the requirements for conjoint degrees: B.A.; B.Ed.; B.Sc.; B.Ed.; and B.Pe, B.Ed. in the cases of arts, science and physical education majors respectively. One component of those programs is a student teaching experience which is normally completed in the fourth or fifth year of study. Presently the Student Teaching Division of Memorial University offers three different types of practical experiences. They are; (1) a mixed program consisting of on-campus course work and off-campus field work, (2) a thirteen-week student teaching term, and (3) a cross-cultural student teaching program in England.

### The Mixed (Course-Work and Field-Work) Program

This program consists of one half day per week of observation and teaching in a public school classroom throughout either the fall or winter university semester and a concentrated two-week period of teaching occurring after the end of the winter semester. The half-day experiences are supplemented by on-campus seminars and combined micro-teaching and peer teaching. Video taping of micro teaching lessons is used extensively to provide feedback to students.

In the meantime, students are concurrently enrolled in other courses offered either by the education faculty or by other departments within the university.

This program is the minimum teaching practice needed to meet the requirements for degree programs in teacher education at Memorial Uni-versity.

It should be noted that although this program includes a twoweek post-semester teaching block, this study investigated only the insemester portion. The reason for this will be explained in Chapter III.

#### The Home-Based Student Teaching Program

In 1972 Memorial University established an extended student teaching practicum in an effort to improve its teacher education program. This is a thirteen-week optional program during which students spend four days per week in public school classrooms; the fifth day being reserved either for seminars with various members of the departments of the Faculty of Education or for field trips to various agencies which are considered instrumental in the professional development of students.

Early in the term emphasis is on observation of school and classroom activities. The proportion of time spent in observation is gradually reduced as the student assumes increasing responsibility for classroom teaching until he/she is accepting major responsibility for activities of the class for at least 50 percent of the school day. This 50 percent guideline is flexible to accommodate individual students.

In this program, students work in public schools within a ten mile radius of the university campus in St. John's, Newfoundland.

### The Overseas Student Teaching Program

In 1970, Memorial University of Newfoundland established a "branch campus" in Harlow, a new town approximately twenty miles north of London in Essex County, England. The "campus" consisting of a student residence designed to accommodate approximately thirty students as well as nearby accommodation for two professors was established to provide opportunities which were either not available in Newfoundland or to supplement the activities of the main campus. Since September 1973, this facility has been utilized to offer an overseas student teaching program to twelve students per term for each of three terms during each academic year. To date a total of approximately 300 students have completed a student teaching practicum in England. The overseas program is advertised in the university calendar as well as in the student newspaper and on various bulletin boards around the main campus. In theory, all students should be aware of the existence of and the requirements for admission to and completion of the program.

Those seeking an overseas assignment must in the first instance apply for the student teaching program <u>per se</u> and if accepted are placed in schools in Harlow if they indicate such an overseas preference.

In all respects, entrance requirements for this program are identical with those of the home-based program. Students must be in clear academic standing (i.e., not on academic probation), must have completed a set of prerequisite courses, and must have had an interview with a member of the faculty of the Division of Student Teaching of the Faculty of Education.

The student teaching coordinator in Harlow is a member of the faculty of the Student Teaching Division and is stationed in England for either one, two, or three semesters. This assignment is of a voluntary nature and is rotated among the various members of the Division of Student Teaching. The role of the overseas student teaching coordinator is similar to that in Newfoundland. The main functions of that role include arranging for student teaching placements, briefing of the cooperating teachers regarding various elements of the program, observing the student teacher at work, sharing in the final evaluation of the student, and generally promoting the professional development of the student teacher wherever possible.

After an orientation period of approximately one week on the main campus in Newfoundland, students travel to England. Following

their arrival they are given time for familiarization and then assigned to their cooperating schools. Thereafter they spend four days per week in a public school classroom, the fifth day usually being spent on field trips to various institutions or agencies which are considered to be instrumental in the professional development of the student and which are either unavailable or are inaccessible to students in Newfoundland.

As with the student teaching program in Newfoundland, early in the term emphasis is on observation of school and classroom activities. Orientation to the school usually takes longer than in the Newfoundland setting. The proportion of time spent in observation is gradually reduced as the student assumes more responsibility for classroom teaching. Usually at about mid-term, students are teaching approximately two and one-half hours each day.

In all cases, the students representing the various teaching levels from primary through secondary as well as all subject areas are assigned to schools in Harlow operated by the West Essex Area Education Office of the Essex County Council.

### Rationale for the Study

The rationale for this study rests on both theoretical and empirical grounds.

Reference has already been made to the fact that the diversity of contexts and the variations of approaches to the conduct of student teaching programs seem to result in differential outcomes. In Chapter II that notion will be expanded in a review of research evidence concerning the variables under study. Given that the three programs to be studied

here are quite dissimilar (the extent of those differences will be explicated in detail in Chapter III) it seems reasonable to expect dissimilar outcomes.

In addition, in Chapter II a theoretical formulation of attitude change will be presented. That formulation which is helpful in explaining and interpreting attitude changes observed in empirical studies will also serve as a basis for prediction of the direction and extent of attitudinal shifts of students in each of the three programs under study.

Essentially, it is expected that those students who are exposed to a cross-cultural program will experience changes in attitudes of a degree and kind not experienced by students in the home-based program. Similarly, it is expected that those who are involved in a course-work/ field-work program will experience attitude changes different from those experienced by students in the other two programs.

### Statement of the Problem

It is the general purpose of this study to investigate three general questions:

- 1. Do significant differences initially exist among three groups of practicum students (those who participate in a combined course-work/field-work program, those who participate in an overseas practicum, and those who participate in a normal student teaching term) on the following four dimensions: open-mindedness, progressive attitudes toward education, traditional attitude toward education, and receptivity to educational innovation?
- Do significant differences exist among the three groups of practicum students with regard to changes in (a) degree of

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open-mindedness, (b) extent of progressive/traditional attitudes toward education, and (c) level of receptivity to educational innovation experienced during the programs?

3. What are the relationships among the following biographic and programmatic variables: (a) area of academic study (major), (b) level of teaching preference (elementary or secondary), (c) size of hometown, (d) father's occupation, (e) level of previous teaching experience, and (f) sex and level of open-mindedness, extent of progressive/traditional attitudes toward education, and degree of receptivity toward educational innovation of the prospective teachers involved?

### Hypotheses

In light of the theroetic framework to be outlined in detail in Chapter II and as a result of a review of the conclusions of previous research efforts in this area, the following hypotheses were developed for and explored in this study. These hypotheses, stated in null form emanate from the general statement of the research problems presented earlier. It should be noted that each of these hypotheses is a composite of a number of more specific subhypotheses. This approach was taken to avoid the undesirable situation of having to list a huge number of specific hypotheses many of which would have been duplicates of each other except with regard to the particular dependent variable or programs named.

> H<sub>1</sub> No significant differences exist initially among the three groups of students with regard to openmindedness, progressive/ traditional attitudes toward education, and receptivity to educational innovation.
H<sub>2</sub> No significant differences exist among the three groups of students with regard to changes in openmindedness, progressive/ traditional attitudes toward education, and receptivity to educational innovation during the programs under study.

H<sub>3</sub> No significant relationships exist among (a) size of hometown,
(b) fathers' occupation, (c) extent of previous experience,
(d) major discipline, (e) sex, and (f) level of teaching preference and levels of openmindedness, progressive/traditional attitudes toward education, and receptivity to educational innovation.

The variables utilized in these hypotheses will be defined and operationalized in Chapter III.

#### Assumptions and Delimitations of the Study

Two basic assumptions underlie this study. The first is that attitudes are the products of past experiences and are capable of being modified through exposure to new experiences. Second, implicit in this study is the assumption that attitudes influence behavior. If attitudes are not in any way reflected in behavior, then studies such as this one are probably meaningless and certainly inconsequential.

This study focuses on the students of one teacher education institution during one academic year (three semesters). As indicated earlier, caution should be exercised in generalizing the conclusions reached here to situations outside that particular context.

Furthermore, the study is of a quasi-experimental rather than experimental nature because random sampling was impossible given the program structure, hence it was impossible to control all extraneous variables. A final limitation to be noted here is that determined by the method of data collection. The shortcomings of questionnaire methodology have been well documented (Sellitz, 1976). The main difficulty revolves around whether one can be at all certain that expressed attitudes really reflect actual feelings and beliefs.

Other more specific limitations will be discussed in context at appropriate points throughout the remainder of this report.

#### Need for and Importance of the Study

A review of research in this field leaves one with a great feeling of urgency to expediate the study of student teaching; given its ascribed importance in teacher education, it is alarming to find so little systematic research related to it. Discussion and descriptive reports are plentiful, but comprehensive basic study of the processes involved is lacking. (Davies and Amershek, 1969, p. 1384)

This sentiment is a familiar one. It has been echoed by many who have attempted to assess the state of the art in research on student teaching (Michaelis, 1960; Denemark and MacDonald, 1967; Peck and Tucker, 1973; Turner, 1975; Fuller and Brown, 1975; and Howey, 1977).

While research on student teaching is scanty, especially in terms of consistent substantive results, that dealing with cross-cultural programs is practically non-existent. Although numerous North American institutions now operate international programs of student teaching (Association of Teacher Educators, 1980) seldom have these programs been assessed in an attempt to ascertain their impacts.

The need for research in this area is apparent. Additionally, the results of this study should be of immediate benefit to Memorial University in its attempts to modify and recast programs in response to evaluative investigations of the type undertaken here.

### Definition of Terms

The following are definitions recurring in this study.

#### Dogmatism (Open-/Closed-Mindedness)

Dogmatism throughout this report refers to the extent to which an individual can ". . . receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits . . ." (Rokeach, 1960, p. 57).

A low dogmatic person does not cling to preconceived beliefs, values and commitments. Rather, he is one who can perceive new ideas without distortion and talk about them objectively even though they may be at variance with his own (Owen, 1970). Such a person may be referred to as being open-minded. Indeed the terms "open-minded" and "low dogmatic" are used synonymously herein.

A high dogmatic or closed-minded individual ". . . tends to distort his perceptions to conform to his previously internalized beliefs, values and commitments . . ." (Owen, 1970, p. 212). He is less willing to examine points of view different from his own and fails to discriminate between substantive information and information about the source.

# Educational Attitudes (Progressivism/ Tradtionalism)

For purposes of this study, traditionalism and progressivism are educational attitudes as delineated by Kerlinger (1958). Kerlinger's conceptualization is a reflection of earlier work by John Dewey (1902). The scale utilized in this study to measure educational attitudes, the Educational Scale VII, is based on three criterial referents for the traditional dimension (discipline, subject matter, and moral standards) and three criterial referents for the progressive dimensions (child needs, individual differences, and social learning).

Those who hold progressive educational attitudes stress a process of education characterized by emphasis on problem-solving, focus on children's needs and interests, equality and warmth in interpersonal relationships, internal discipline, individual responsibility, and a relative de-emphasis of subject matter as knowledge.

Those who espouse traditional viewpoints emphasize the value of subject matter, the need for subordinate-superordinate relationships between teacher and pupil, the necessity of externally imposed discipline, and they envision a morality that is based on an external higher authority.

#### Receptivity to Educational Innovation

Receptivity is the degree to which a number of proposed changes in education are considered desirable or undesirable. An innovation in this study is an idea that has at some point been recommended by educators for adoption within school systems but which has not yet been widely accepted within the schools of the province of Newfoundland. One would not normally encounter examples of such practices or procedures within those schools.

# <u>Conclusion</u>

In this chapter a rationale for the present study has been presented and research questions have been delineated. The remainder of this report is organized in the following manner. Chapter II presents a review of theory and research related to the variables involved.

Chapter III outlines in detail the design and methodological approach of the study.

Chapter IV describes the data analysis and findings of the study.

Chapter V presents the conclusions to be drawn from the findings and recommendations for future research and practice.

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### CHAPTER II

# REVIEW OF THE LITERATURE

### Introduction

The purpose of this chapter is to examine the 'logical geography' of the three dependent variables of the study and to present an analysis of previous research findings in those areas. The variables will be discussed in the following order: (1) open-/closed-mindedness, (2) progressive/traditional attitudes toward education, and (3) receptivity to educational innovation. Those somewhat discrete treatments of the variables and related research are followed by a presentation of that synthesis of findings from earlier studies which formed the basis of the present study. This is done within the context of a theory of attitude change.

### <u>Open-/Closed-Mindedness--</u> <u>Conceptual</u> Analysis

The work of Milton Rokeach (1960) regarding the open and closed mind serves as the theoretical underpinning for the manner in which the concept 'open-/closed-mindedness' is utilized throughout this paper. The antecedents of that work are instructive in developing a clear understanding of the concepts involved.

Rokeach has acknowledged that his work was greatly influenced by that of Fromm (1947), Maslow (1943) and particularly by the efforts

of Adorno, Frenkel-Brunswick, Levinson, and Sanford (1950). The investigations of Adorno and associates regarding the authoritarian personality were initiated in an effort to analyze and measure anti-semitism. That initial work was later expanded to encompass a broader study of authoritarianism resulting in the publication of the well-known "F Scale." The F Scale was originally designed to ". . . be used as an indirect measure of prejudice without mentioning the names of any specific minority group; and it was designed to measure underlying personality predispositions toward a fascistic outlook on life" (Rokeach, 1960, p. 12). Because validational studies indicated that those who scored high on the F Scale also scored high on ethnocentrism and anti-negro sentiments, and were more politically conservative, the F Scale became accepted as a measure not only of fascist authoritarianism but also of general authoritarianism. However as Rokeach and his associates have pointed out, the F Scale remained a measure of authoritarianism of the political right and did not measure leftist authoritarianism or authoritarianism of any other point along the political spectrum or in other fields of human endeavors.

Using this as a point of departure Rokeach (1960) embarked upon his effort to develop a scale to measure authoritarianism in all its forms regardless of ". . . specific ideological, theological, philosophic, or scientific content" (p. 14).

Basic to Rokeach's conceptualization is the suggestion that each person's cognitive system is organized into two interdependent sections: the belief system and the disbelief system. He explained the distinction in the following manner:

The belief system is conceived to represent all the beliefs, sets, expectancies, or hypotheses, conscious and unconscious, that a person at a given time accepts as true of the world he lives in. The disbelief system is composed of a series of subsystems rather than merely a single one, and contains all the disbeliefs, sets, expectancies, conscious and unconscious, that, to one degree or another, a person at a given time rejects as false. (Rokeach, 1960, p. 33)

A second defining characteristic of cognitive systems is their organization along a central-peripheral dimension. The three layers, central, intermediate, and peripheral are defined by Rokeach (1960). thusly:

(1) A central region represents . . . the person's "primitive" beliefs. These refer to all the beliefs a person has acquired about the nature of the physical world he lives in, the nature of the "self" and of the "generalized other" (G. H. Mead, 1952). (2) An intermediate region represents the beliefs a person has in and about the nature of authority and the people who line up with authority, on whom he depends to help him form a picture of the world he lives in. (3) A peripheral region represents the beliefs derived from authority, such beliefs filling in the details of his world-map. (p. 40)

The third dimension of belief-disbelief systems is what Rokeach refers to as time perspective. Time perspectives are conceived as varying from broad to narrow--"A broad time perspective is one in which the person's past, present, and future are all represented within the belief-disbelief system, and the person sees them as related to each other" (Rokeach, 1960, p. 51).

On the other hand a narrow time perspective is ". . . one in which the person overemphasizes or fixates on the past, or the present, or the future without appreciating the continuity and the connections that exist among them" (Rokeach, 1960, p. 51).

With these three distinctions in mind Rokeach's formal definition of open-/closed-mindedness (dogmatism) takes on increased significance. That definition is as follows: Dogmatism is (a) relatively closed cognitive organization of beliefs and disbeliefs about reality, (b) organized around a central set of beliefs about absolute authority which, in turn, (c) provide a framework for patterns of intolerance and qualified tolerance toward others. (Rokeach, 1956, p. 20)

That definition of dogmatism has been recast by Rokeach (1960) in less formal terms.

This leads us to suggest a basic characteristic that defines the extent to which a person's system is open or closed, namely, the extent to which the person can receive, evaluate and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside. (p. 57)

Rokeach cites irrational ego motives, power needs, and the need to allay anxiety as examples of irrelevant factors arising from within the individual. Examples of irrelevant external pressures are perceived sanctions from authority figures, parents, reference groups, and social and cultural institutions.

Restated in another way, "The more open one's belief system, the more should evaluating and acting upon information proceed independently on its own merits . . . and conversely, the more closed the belief system, the more difficult should it be to distinguish between information received about the world and information received about the source" (p. 58).

To the closed system the source and the message become indistinguishable, to the open system they can be evaluated separately.

The more salient characteristics of Rokeach's conceptualization of open- and closed-system individuals have been summarized in table form by Weston (1973) (Table 2.1).

It should be recalled from Chapter I that throughout this report low dogmatic is equated with open-mindedness and high dogmatic with

Table 2.1.--Comparison of Characteristics of Open- and Closed-System Individuals.

	Open System Characteristics		Closed System Characteristics
1.	Individual accepts or rejects a belief on the basis of objective structural require- ments without regard to arbitrary reinforcements from external authority.	1.	Individual accepts or rejects a belief based on irrelevant, internal drives and/or arbitrary reinforcements from external authority.
2.	Individual sees the world as a friendly place.	2.	Individual sees the world as a threatening place.
3.	Individual does not rely on authority in accepting or rejecting beliefs.	3.	Individual has an over- reliance on authority in accepting or rejecting beliefs.
4.	Individual does not evaluate others according to beliefs held in common.	4.	Individual evaluates others according to their agreements or disagreements with his own belief system.
5.	Individual values others positively regardless of their beliefs.	5.	Individual has difficulty dis- criminating between and separately evaluating a belief and the person holding the belief.
6.	Individual has a balanced conception of past, present, and future in relation to each other.	6.	Individual has a narrow future-oriented time perspec- tive.

closed-mindedness. In order to further clarify these concepts the following sections indicate how they may be compared and contrasted with allied notions. Differences between open-/closed-mindedness and its cousins, 'rigidity,' 'authoritarianism,' 'neutrality,' and 'change' will be illucidated.

### Open-/Closed-Mindedness and Rigidity

On the surface rigid and dogmatic thinking would seem to be similar phenomena. However, Rokeach (1960) makes an excellent case for considering rigidity to be resistance to change of single beliefs whereas dogmatism refers to resistance to change of total systems of beliefs. The referent of rigid thinking is a single concept, idea, or set contrasted to the referent of dogmatic thinking which is the total cognitive configuration of beliefs held by an individual at any point in time. Hence, dogmatism is a much more overarching and comprehensive phenomenon than is rigidity. This distinction will take on increased significance later in this chapter.

# Open-/Closed-Mindedness and Authoritarianism

As stated earlier, the Dogmatism Scale developed by Rokeach is a measure of general authoritarianism regardless of any specific ideological or philosophical stance. Persons who score high have different ideas about the nature of authority than do those who score low (those who are more open-minded). Open-minded individuals tend to have a rational, tentative reliance on authority whereas closed-minded (high dogmatic or highly authoritarian) individuals tend toward absolute reliance or authority (Rokeach, 1960, p. 44).

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#### Open-/Closed-Mindedness and Neutrality

It is common to encounter the terms open-mindedness and neutrality used in an interchangeable fashion in everyday discourse. As utilized throughout this report, the two are quite distinct. Openmindedness refers to a disposition to change a belief system in the light of additional evidence. It does not reflect a desire to refrain from taking a position as does one who remains neutral. A person's belief may be quite firm yet open to change; hence, lack of neutrality but nevertheless openness.

#### Open-/Closed-Mindedness and Change

One of the three major variables to be examined in this research has been labeled "Receptivity to Educational Innovation" and although it will be defined at length later in this chapter it is referred to at this juncture in an endeavour to forestall possible conceptual confusion.

Central to the definition of dogmatism is the proposition that the closed-minded, highly dogmatic individual is extremely resistant to change. Indeed in a review of research findings Ehrlick and Lee (1969) indicate a general confirmation of the proposition that closed-minded persons are less able than open-minded persons to either learn new beliefs or to change old ones. However, they identify five intervening variables which may account for a less than perfect correspondence between openmindedness and change. Those variables are; "The authority-sources of the new beliefs, the syndrome relevance of their mode of communication, the belief congruence and novelty of the new beliefs, and their centrality to the individual" (Ehrlich and Lee, 1969, p. 257). Hence, it is quite conceivable that an individual who adopts an innovation may be doing so

not because of openness to new ideas but rather as acquiescence to some authority figure who is viewed as having the right answer. In this instance the adopter of an innovation may, in fact, be very closedminded.

This belief example should be suffice to illustrate the fact that although there is a general relationship between dogmatism and change there is not necessarily a perfect correlation between dogmatism and receptivity to innovation. For this reason and for other reasons to be explained later in the discussion of 'receptivity' the argument is advanced that the Dogmatism Scale and the Receptivity to Innovation Scale as utilized here do not necessarily measure the same aspects of personality.

#### Research Regarding Open-/Closed-Mindedness

The Dogmatism Scale developed by Rokeach has been utilized in hundreds of studies conducted over the past two decades. Much of that work is either unenlightening or irrelevant to the present purpose. Hence the literature review which follows is a selective one focusing only on areas germane to the central thrust of this study. Research falling into four categories will be reviewed. Those categories are: (1) Research Regarding the Validity of the Theoretical Tenets of Dogmatism, (2) Research Regarding Dogmatism and Teaching, (3) Dogmatism and Teacher Education Including Student Teaching, and (4) Dogmatism and Cross-Cultural Experiences.

### Research Regarding the Validity Tenets of Dogmatism

In <u>The Open and Closed Mind</u> Rokeach (1960) and his associates reported a number of studies designed to test the validity of various aspects of his theoretical formulation. Many of these studies engaged subjects in problem-solving situations utilizing rules and parameters at variance with everyday experience. In order to accomplish this, Rokeach used the "Denny Doodlebug Problem" which consisted of an imaginary miniature cosmology in which the principal actor, Joe Doodlebug, was capable of only certain actions. For example Joe could jump in four directions, north, east, south, and west but not diagonally. Joe could not switch directions until he had completed a series of four jumps in the same directions. In addition he could not turn around, crawl, walk or fly but could vary the length of his jumps.

Subjects in the various experiments were required to explain how Joe was to reach food or how in fact he had managed to do so. In order to arrive at possible solutions, subjects were required to overcome three previously held beliefs and replace them with three new beliefs. Those beliefs were: (1) the facing belief--Joe did not have to face food to eat it. He could alight atop it, (2) the direction belief--Joe was forever facing north but could change directions by jumping sideways and backwards, and (3) the movement belief--Joe was required to jump four times in one direction before altering course, however, Joe may have stopped in the middle of a sequence.

This problem and its many variations provided experimental evidence to support Rokeach's hypothesis that high-dogmatics would be more resistant to changes in beliefs and would have more difficulty in

a de la sera ser en este sera d'arre sera de che a sera de la sera La sera sera sera sera de la sera d integrating new beliefs into their previously held belief-disbelief systems. These and other studies provided evidence in support of the existence of a belief-disbelief system and of the open and closed mind as conceptualized.

In addition to the studies conducted by the major authors of the Dogmatism Scale, other researchers have produced confirmation of the existence of "general authoritarianism" (dogmatism) as proposed by Rokeach. Work by DiRenzo (1967), Hanson (1968), Kerlinger and Rokeach (1966), and Plant (1960) all support the proposition that the Dogmatism Scale measures general authoritarianism whereas the Adorno F Scale measures only right authoritarianism.

After an exhaustive review of studies of dogmatism, Vacchiano, Strauss, and Hochman (1969) were led to conclude that ". . . the findings support the validity of Rokeach's concept, particularly as a generalized theory of authoritarianism independent of ideological content" and that ". . . a dogmatic personality style exists and may be readily identified" (pp. 272-273).

Similarly in a review of more than 100 studies, Ehrlich and Lee (1969) concluded that ". . . these studies considered together provide a consistent set of findings most of which are in accord with theoretical expectations" (p. 253).

As stated earlier, Rokeach has suggested that his formal definition of dogmatism may be distilled down to one fundamental distinction between open and closed minds: closed minds have difficulty distinguishing the source of a message from the substantive content of that message whereas open minds do not. In a well-formulated study conducted to test this hypothesis, Powell (1962) found that indeed

... open and closed individuals do differ in their relative ability to differentiate between sources and messages and to evaluate them independently in a more or less realistic communication situation. Open individuals were found to be better able to do this than were closed individuals. (p. 64)

This conclusion was supported by Vidulich and Kaiman (1961) who found that closed-minded individuals among their sample (thirty psychology students) agreed to a significant degree more with high status sources (professors) than with low status sources (secondary school students). In keeping with the theoretical prediction, open-minded subjects agreed significantly more than did closed-minded persons with low status than with high status sources.

Studies by Kemp (1962) and McCarthy and Johnson (1962) further buttress this central proposition of the dogmatic personality construct.

# Research Regarding Open-Closed-Mindedness and Teaching

It has been suggested that highly dogmatic individuals tend toward vocations in the ministry, the armed forces, the police, and in public school teaching. In fact some writers have insinuated that the teaching profession is characterized by a high level of dogmatism. Soderberg (1964), for example, in an article in <u>The Journal of Teacher</u> <u>Education</u> has stated that ". . . some veteran public school teachers are excessively, and for the most part unwittingly, dogmatic" (p. 245). Projected concomitant characteristics of such teachers were an unwillingness to admit that reasonable alternatives to fixed opinions exist, an unwillingness to change, and an intolerance for ambiguity. Likewise Friedenberg (1959) has intimated that teachers tend to enter the profession in order to attain a sense of security in an occupation that offers opportunities to exercise control and authority and that school staffs are ". . . composed chiefly of individuals who have achieved their own basis of security by cautious attention to external norms" (p. 148).

These opinionated claims have been at least partially refuted by Rabkin's (1966) finding that teachers with more than ten year's teaching experience had a significantly lower mean dogmatism score when compared with other teachers and with samples used by Rokeach in his initial studies. He concluded that:

. . the tendency toward excessive dogmatism or closedmindedness is not a general characteristic of this group (teachers enrolled in summer courses at the University of Washington) of present-day educators. Indeed, the results indicate a considerably lower degree of this rigid type of thinking as compared with various other college and noncollege groups. (p. 49)

This corroborates earlier evidence presented in <u>The Open and</u> <u>Closed Mind</u> that:

. . . on the whole open subjects move toward professions requiring more advanced professional training in vocations that involve dealings with people in need of help: occupational therapy, medicine, the ministry, psychology, social work and teaching. (Rokeach, 1960, p. 344)

Further substantiation of this point is forthcoming in a study conducted by Platow (1968) at The University of Southern California. He found that while regular classroom teachers and teachers of exceptional children did not differ significantly with regard to level of dogmatism both groups seemed to be less dogmatic, more open-minded, than the public at large.

Underlying the present research is the belief that teachers as mentors of the world's youth should generally be more open- than closedminded. In fact writers such as Robert Bills (1967) have accorded the development of open-mindedness the highest priority in the education of teachers. He states:

. . . if we could agree at all about what we would like students to gain from teacher education programs including student teaching it would probably be an openness to the experience of teaching, an openness to its problems and opportunities, an openness to oneself so that he can bring his experiences to bear on becoming a teacher, and an openness to one's lack of experience so that he is moved to accept new experiences. (p. 9)

This advocacy stance is supported by the results of several research projects. In a study conducted at the University of Alabama, Finch (1973) found that an instructor's ability to form relationships characterized by qualities of positive and unconditional regard for students, and empathic understanding of his/her students was dependent upon the extent of openness of the instructor. Significant relationships were shown to exist between student ratings of instructor behavior, the relationship qualities of the instructor and the openness of the instructor.

Similarly Emmerling (1963) found that pupils of more open teachers saw their teachers as being more understanding, empathic, and pupil-centered.

In keeping with this finding, Kremer and Ben-Peretz (1980) report a study conducted in the Haifa school district which indicated that the variable "Dogmatism" as measured by the Rokeach D-Scale accounted for the largest amount of variance (when compared to locus of control, knowledge, and attitudes toward teaching behavior) in the following six teaching behaviors: (1) relates to students' talk, (2) encourages students' initiative, (3) places responsibility for learning upon students, (4) is aware and alert to students' talk, (5) elicits divergent thought processes, and (6) demonstrates tolerance to differing views of students. The researchers conclude that "The common characteristics of these six behaviors is their relation to personality traits rather than to teaching skills. They concern teacher and student roles, and pertain to student vs. teacher-centered teaching situations" (pp. 77-78).

Almost identical conclusions were reached by Chalker (1972) who compared the Dogmatism levels of suburban social studies teachers with matrices developed from the Flanders Interaction Analysis Categories and The University of Pennsylvania Interaction Analysis System. The following is an exerpt from the abstract of that study.

Analyses of these data revealed statistically significant differences supporting the theory that teachers low in dogmatism surpass those high in dogmatism in the following teacher behaviors: (1) establishing an intellectually permissive classroom atmosphere, (2) encouraging student initiation and participation in class discussions, (3) clarifying and expanding class discussion, (4) respecting student opinions, (5) avoiding the use of ridicule and sarcasm against students, and (6) ensuring students an opportunity to express themselves. (Abstract)

Taking a slightly different tack, Barry (1974) conducted a research project in Sacramento, California in which he compared the development of creativity of primary-aged children taught by highdogmatic teachers with children's creative development in classrooms conducted by low-dogmatic teachers. Results indicated a significant difference with students of low dogmatic teachers scoring higher on "The Torrance Test of Creative Thinking" and the "Fun With Dots Test" than did children with high dogmatic teachers.

In a similar study Ager (1970) found that although relationships were not statistically significant the general direction of his findings supported those of Kremer and Ben-Peretz (1980) and Chalker (1972). There would seem to be a relationship between degree of openmindedness and level of use of indirect teaching behavior.

Several studies have examined the relationship between dogmatism and other attitudinal and behavioral traits of teachers. For example, Willower, Edell, and Hoy (1967) hypothesized that closed-minded teachers would tend to be more custodial in their pupil control ideology. Their hypothesis was confirmed beyond the .001 level.

In a closely allied study Stevenson (1970) investigated the relationship between dogmatism scores and scores on the Minnesota Teacher Attitude Inventory which he suggests "Predicts teacher-student rapport that can be expected in the social-emotional climate" (p. 1156). He concluded that the Rokeach scale could be utilized as a predictor of authoritarian-equalitarian attitudes and teacher-student rapport in the personnel selection process.

The findings of Johnson (1967) who studied a sample of seventysix female elementary teachers employed by the Douglas School system, Ellsworth Air Force Base, South Dakota substantiated Stevenson's conclusion that high dogmatics score significantly lower on the Minnesota Teacher Attitude Inventory.

The final study to be reviewed in this section is that conducted by Cohen (1969). He explored the relationship of varying levels of dogmatism to the effects of different forms of response set on the decision-making behavior of teachers. High- and low-dogmatic teachers were randomly assigned to three situations: (1) the child was labelled as psychotic, (2) the child was labelled as well-adjusted, and (3) the child was not labelled at all. Prior information (labelling) was found to influence the decision-making behavior of high-dogmatic teachers to

a greater degree than it did the decision-making behavior of lowdogmatics.

Taken together these studies indicate the relevance of the study of dogmatism in relation to the study of teachers and teaching.

The section which follows highlights research bearing directly on one of the central foci of this study, namely open-/closed-mindedness and teacher education (including student teaching).

# Research Regarding Open-/Closed-Mindedness and Teacher Education

Studies of interest to this review of research regarding dogmatism and teacher education fall into three categories: (1) investigations of personality and demographic correlates of dogmatism among prospective teachers, (2) examinations of the relationship between dogmatic thinking and such variables as attitudes toward teaching and preferences with regard to teaching style, and (3) studies of the effect of various teacher education programs upon levels of dogmatism.

In the first category studies by Shaver and Richards (1968), Cappelluzzo and Brine (1969), Borgers and Ward (1974), Bremer (1970), Brumbaugh, Holdt, and Beisel (1966), and Febinger (1965) represent the most significant findings.

Shaver and Richards (1968) found that among undergraduate teacher education students at Ohio State University, the University of California at Santa Barbara, The University of Oklahoma and Boston University and graduate education students at Harvard University, The University of Washington, The University of Michigan, and Utah State University those studying languages, business education, music and mathematics were more highly dogmatic than those in social studies, English, and special education.

In addition they concluded that teacher education students in their large sample were no more dogmatic than university students in general.

Cappelluzzo and Brine (1969) in a study at the University of Massachusetts, found that undergraduate prospective teachers tended to be less dogmatic when compared with experienced teachers in the State of Washington but similar to students at Ohio State tested by Rokeach. An additional finding related the area of academic discipline and degree of dogmatism. Those in mathematics had higher mean dogmatism scores while those in the natural sciences tended to score lower.

In a similar study of forty secondary level student teachers at the University of Akron, Brumbaugh, Hoedt, and Beisel (1966) investigated the relationship between level of dogmatism and academic discipline. They found that student teachers in mathematics, science and social studies were significantly more closed-minded than were students in foreign languages, English or the fine arts.

These results are in keeping with those of Cappelluzzo and Brine (1969) in that mathematics student teachers were among the most dogmatic. However in contrast to the Cappelluzzo and Brine conclusion, those in the sciences tended to be in the high dogmatic rather than the low dogmatic group.

With regard to the significance of their findings, Brumbaugh, Holdt, and Beisel state:

If the pilot study findings are valid, questions concerning the functionality or dysfunctionality of the personality traits of open- or closed-mindedness with regard to various criteria of teacher effectiveness within each of these subject areas might well be asked. For example, if, as Rokeach suggests, the dogmatism scale is, in effect, a measure of creativity, what impact does a closed-minded science teacher have upon the development of creative student thinking in science. (p. 335)

At the University of Northern Colorado, Bremer (1970) found that female student teachers were less dogmatic than males as were elementary and special education students when compared with those at the secondary level.

Borgers and Ward (1974) administered the Rokeach Dogmatism Scale (Form E) and the Edwards Personal Preference Schedule to eightythree teacher education students in a competency-based teacher education program. The twenty-two highest scoring (high-dogmatic) and the twentytwo lowest scoring (low-dogmatic) students were compared with regard to sex, age, and grade point average. No significant differences were found between the two groups on these three variables. However, scores on the Edwards Personal Preference Schedule indicated that the high dogmatic group had significantly greater need for order, abasement and aggression. The researchers concluded:

Since the needs of prospective teachers do vary, each individual should be aware of his needs and should consider how these relate to teaching. The low dogmatic group had greater need for autonomy; it may be that they view teaching as a situation where they will have the opportunity to make independent decisions. The high dogmatic group had greater need for order, abasement, and aggression, they may view teaching as an organized system where they will be supervised and at the same time be allowed to criticize points of view which disagree with their own. (p. 699)

The final study in this category, that conducted by Febinger at the University of Colorado, is quite similar to the Borgers, Ward study described earlier. Febinger's report indicated that his sample of 192 prospective teachers were significantly more open than other college samples and within his sample those in the disciplines of English, mathematics, and the physical and biological sciences were among the least dogmatic whereas those in the foreign languages and physical education tended to be more dogmatic.

Correlations of scores on the Rokeach Dogmatism Scale with those on the sixteen Personality Factor Questionnaire led Febinger to conclude that the more open-minded students tended to be bright, emotionally mature, dominant, adventurous, trustful, bohemian, confident, selfsufficient, relaxed and high-achieving. Closed-minded student teachers tended to be dull, emotionally immature, submissive, timid, withdrawn, suspecting, conventional, insecure, tense, and low-achieving.

The results of these studies have been presented to provide an indication of the types of research conducted into and conclusions reached concerning the relationships between dogmatism and its personality and programmatic correlates among teacher education students. As already evident, the findings tend to be piecemeal, haphazard, contradictory and generally unenlightening. Together they do not provide stable generalizations which might be valuable in predicting outcomes of additional studies.

Falling into the second category are a number of studies of the relationship between student teacher dogmatism and such variables as attitudes toward teaching, teaching style preferences, and perceptual accuracy.

Three of those studies have explored the relationship between dogmatism and attitude toward teaching children as measured by the Minnesota Teacher Attitude Inventory. The findings in all three pieces of research are consistent. Hester (1976), in a study of eighty-seven student teachers enrolled at Mississippi College, Berg (1977) in a study of 130 students enrolled in an elementary education program at a small Catholic liberal arts college, and Johnson (1977) who conducted a study of 118 student teachers at an unidentified college all concluded that a negative correlation existed between dogmatism scores and scores on the Minnesota Teacher Attitude Inventory. Student teachers who scored lower on the Dogmatism Scale (more open-minded) tended to score higher on the Minnesota Teacher Attitude Inventory (more positive attitudes toward teaching children).

Berg's finding viewed in the context of her total study is particularly instructive. She concluded that increasing levels of exposure to field experiences resulted in not only a decrement in terms of positive attitudes toward teaching children but also to an increase in closed-mindedness. This leads to speculation concerning the relationship between these two sets of scores. Johnson, in his analysis of this phenomenon has theorized ". . . that there might be a congruent dimension present within the two inventories. The two instruments may measure essentially the same thing, some aspect of a dogmatic personality structure" (p. 216).

Several investigators have explored the relationship between student teacher dogmatism and their perceptual accuracy. Trout (1972) found that open-minded student teachers tended to be superior to their closed-minded counterparts in ability to accurately perceive problems in a complex teaching situation.

In a similar vein Hart (1976) in a study of seventy-five home economics student teachers from The University of Minnesota, concluded that low dogmatic students were consistently more accurate in their

judgments compared with those who were highly dogmatic. In a refinement on that general conclusion Hart stated that:

. . . it was found that teachers low in dogmatism were able to judge more students who were non-similar to the teacher in value profile than teachers high in dogmatism. On the other hand, the teachers high in dogmatism judged accurately more students who were similar to themselves in value profile than the teachers low in dogmatism. (p. 2243)

The findings in this area are inconsistent however. Brumbaugh, Holdt, and Beisel (1966) in their study cited earlier found that dogmatism and perceptual accuracy were unrelated. They concluded that openminded student teachers were no more accurate in assessing the interpersonal needs of their supervising teachers than were closed-minded students.

Exploring the relationship between student teacher dogmatism and preference for teaching styles has been the concern of a number of researchers. Bremer (1970), for example, found that female student teachers were less dogmatic and in greater agreement with "experimentalist classroom practices" than were males. Additionally, elementary and special education student teachers were less dogmatic and in greater agreement with experimental practices than were secondary student teachers.

Fish (1962) concluded that more open-minded teachers were better able to describe developmental sequences after reading scientific generalizations and were better able to direct pupil discovery of relationships than closed-minded teachers.

In a closely allied study Strawitz (1975) found that there was a significant negative correlation between dogmatism and responses to a thirty-item questionnaire developed by Good to assess teacher beliefs about the nature of science for the elementary school, the role of the elementary science teacher, and the nature of children. A low score on the Good Scale purportedly reflects a non-directive, discovery-oriented approach to teaching science.

Finally, Ager (1970) found that on the basis of the Flanders Verbal Interaction Analysis System, open-minded persons used indirect teaching behaviors moreso than did closed-minded individuals. These results, although consistent, did not reach the .05 level of significance.

These findings all seem to converge on one central theme, namely that open-minded student teachers are more likely to engage in teaching practices which may be labelled informal, indirect, or experimentalist. It will be argued later in this paper that such approaches are reflective of a basic philosophy of progressivism in education. It is perhaps not surprising that the findings presented here regarding student teachers tend to corroborate evidence cited earlier with regard to practicing teachers.

The third category of studies to be reviewed in this section focuses on the effect of various teacher education programs upon the levels of dogmatism of the participants. The findings in this area are equivocal.

Berg (1977) and Bremer (1970) both reported increases in dogmatism as a result of student teaching experiences. Berg's study cited earlier related level of exposure (measured by the number of clock-hours) to field experiences with levels of dogmatism and she was led to conclude that "Increasing levels of exposure to field experiences is generally a negative experience for students in that it is related to more closed mindedness" (p. 2710-A). Similarly Bremer (1970) reported that open-minded student teachers became more closed-minded during the student teaching experience.

Two studies report no significant results. Hughes (1969) attempted to determine whether differential changes in dogmatic thinking would be effected by two programs. One program was traditional student teaching, the second a combined micro-teaching, student teaching practicum. No significant differences were found at the .05 level.

In a study of fifty-nine student teachers at North Texas State University, Sughrue (1976) found that those who volunteered for innercity school placement did not differ from other student teachers with respect to degree of dogmatism. In addition when the pre- and posttest scores of the two groups were compared, no significant differences existed in the extent of change of dogmatism levels.

The weight of findings, however, suggest that specially designed programs can have the desired effect of lowering dogmatism. The following studies support that general conclusion.

Garrison (1973), found that experiences in methods courses resulted in reducing the dogmatism of closed-minded students at The University of Wisconsin. However, those who were open-minded at the outset did not become more so.

Kingsley (1968) suggested that by providing instructor models who were open-minded dogmatism could be reduced among student teachers.

Scarr (1970) reported decrements in student authoritarianism after exposure to a human development course. Paschal and Treloar (1979) report a similar effect as a result of having students enroll in an Educational Psychology course. The student teaching experience

did not seem to affect student dogmatism. However, with regard to pupil control ideology, subjects moved from a custodial to a more humanistic orientation during the Educational Psychology course but this change was practically reversed during student teaching.

The findings of Scarr, Paschal, and Treloar were buttressed by the study conducted by Borgers (1979) at a large state university. Utilizing an experimental/control group design, she concluded that the addition of a human relations component to the teacher education program resulted in lowering the dogmatism of participants.

The following is a review of studies dealing specifically with the student teaching component of teacher education programs.

Austin-Martin (1979) recorded a decrease in dogmatism as a result of student teaching. He nevertheless cautioned that pre-testing (in pre-, post-test designs) studies may result in a solidification of attitudes and hence may forestall any potential change. The manner in which that particular concern was handled in the present study will be discussed in Chapter III.

Krall and Holt (1980) explored the effect of placement in alternative open classrooms upon student teachers' dogmatism and attitudes toward open education. When compared with a control group of students assigned to regular secondary classrooms, those students changed significantly on both dimensions.

The authors conclude: "This study lends support to what is perhaps common lore in teacher education: student teaching placement is a critical factor in determining what is learned" (p. 16).

Similarly, Chase (1971) conducted a study of the degree of change of openness of student teachers as a result of participation in

an experimental student teaching program at Michigan State University. The students in the experimental program showed a greater positive change in openness than did students in the conventional student teaching program.

The tentative conclusions and implications to be drawn from these studies will be summarized at the end of this review of research related to dogmatism.

# Research Regarding Open-/Closed-Mindedness and Cross-Cultural Experiences

Under this heading only three studies have been found.

Marion (1956) found that among students from the University of Colorado who participated in study-abroad programs in Western Europe, those who visited the greater number of countries tended to become more open-minded. The researcher concluded that this finding supported the claim that foreign travel leads to a more open-minded, liberalized viewpoint.

Weston (1973) investigated the openness of student teachers involved in the Intercultural Student Teaching Program at Michigan State University. A group of twenty students who had student taught in an American overseas school in the Hague were compared with a group who had volunteered but were not accepted for the overseas program and subsequently student taught in Michigan as well as with a group who had not volunteered but who did their student teaching in Michigan schools. All groups were tested to measure their degree of openness prior to and after the student teaching term. The instrument used was the <u>Dogmatism</u> <u>Scale</u> (Form E) developed by Rokeach. This study found that the overseas student teaching experience did not significantly affect the degree of openness of the students involved when compared with students in the other two groups. None of the groups showed any significant pattern of gain or loss on the Dogmatism Scale.

A second study which attempted to answer the same type of question regarding cross-cultural student teaching was carried out by Self (1975) at the University of Alabama. A group of teachers who had student taught in Latin America were compared with a group of teachers who had completed their student teaching exprience in Alabama. Significant differences between the two groups were found but because there was no pre-test we can only speculate as to whether this was the result of change or of preexisting attitudes.

## Summary of the Review of Dogmatism

To carry out a review of this body of literature can be a daunting task. This is the case because dogmatism has been studied as a major variable in hundreds of research efforts in a variety of settings for a multitude of reasons. The review thus far has focused on studies in four categories. Research relating dogmatism to the two other major variables in this study (traditionalism/progressivism, and receptivity to innovation) has been temporarily ignored. That review will be presented at the end of this chapter after separate analyses of those two remaining concepts and research related to them has been discussed.

The salient aspects of the studies examined to this point can be summarized as follows:

 Dogmatism as measured by the Rokeach instrument taps general authoritarianism.
- High dogmatic individuals have more difficulty integrating new beliefs into their belief-disbelief system.
- Open-minded individuals have less difficulty differentiating the substantive content of a message from information about the source of that message.
- 4. The weight of evidence seems to refute the claim that teachers and student teachers as a group tend to be highly dogmatic.
- 5. Open-minded teachers tend to be able to more easily establish empathic, mutually respectful relationships with pupils.
- Open-minded teachers and student teachers seem to lean toward "experimentalist" and "indirect" approaches to teaching.
- Teachers high in dogmatism tend to be more custodial in their pupil control ideology.
- 8. Dogmatism levels may be related to area of academic study.
- 9. Teachers who score high on dogmatism tend to have lower scores on the Minnesota Teacher Attitude Inventory, a scale which purportedly measured attitudes toward teaching children.
- Results of research are equivocal regarding the relationship between dogmatism and perceptual accuracy.
- Exposure to field experiences may have the effect of increasing students' closed-mindedness.
- Especially designed courses may have the desired effect of reducing dogmatism.
- 13. The effect of cross-cultural programs upon the open-/closedmindedness of students has been almost totally ignored. The evidence that does exist is contradictory.

The foregoing statements are not offered as immutable truths, they are meant only as a digest of the research evidence to date. They reflect the weight of evidence concerning various questions rather than consistently confirmatory conclusions.

#### Progressivism/Traditionalism--Conceptual Analysis

With the publication of The Child and the Curriculum, John Dewey (1902) called attention to two fundamental points of view regarding the educational process. Those viewpoints later labeled "progressivism" and "traditionalism" have since echoed down the corridors of pedagogic history often misrepresented, bastardized, and counterfeited depending upon the purposes of the user and the context of the times and society in which the ideas were propounded. In an essay published more than three decades later Dewey (1938) summarized the essential differences between the two notions. The underlying ideas of traditionalism were: (1) the subject-matter of education consisted of bodies of information that have been worked out in the past and are transmitted by the school, (2) moral training consisted of instilling conformity to standards and rules of conduct developed in the past, and (3) schooling is conducted utilizing a pattern of organization (time schedules, examinations, promotion, and rules of order) at variance with other social institutions.

Dewey (1938) indicates the interconnections among those three characteristics in the following paragraph.

The main purpose or objective is to prepare the young for future responsibilities and for success in life, by means of acquisition of the organized bodies of information and prepared forms of skill which comprehend the material of instruction. Since the subject-matter as well as standards of proper conduct

are handed down from the past, the attitude of pupils must, upon the whole, be one of docility, receptivity, and obedience. (p. 3)

Reference will be made later to the three key ideas contained in the foregoing quotation, namely; subject-matter, moral standards, and discipline.

In contrast to traditionalism Dewey proposed a progressivism which emphasized individual differences, pupil needs, learning through experience, and informality of discipline. Dewey suggested the following principles of progressive schooling and indicated how they were at variance with traditional schooling.

To imposition from above is opposed expression and cultivation of individuality; to external discipline is opposed free activity; to learning from texts and teachers, learning through experience; to acquisition of isolated skills and techniques by drill, is opposed acquisition of them as means of attaining ends which make direct vital appeal; to preparation for a more or less remote future is opposed making the most of the opportunities of present life; to static aims and materials is opposed acquaintance with a changing world. (p. 5)

Dewey cautioned against drawing sharp dichotomies which resulted in "either-or" schisms. Rather he suggested that traditionalism and progressivism were extremes between which many intermediate possibilities existed.

Building on the key concepts of Dewey, Frederick Kerlinger (1967) focused attention on the factor structure and content of attitudes toward education. Specifically he explored the popularly held assumption that progressivism and traditionalism were extremes of a single unidimensional continuum. He challenged this inherent bipolarity and proposed a dualism of educational attitudes with two relatively independent dimensions corresponding to Dewey's "progressivism" and "traditionalism." Kerlinger defined an attitude as ". . . an enduring structure of descriptive, evaluative and exhortative beliefs that predispose the individual to behave selectively toward the referents of the attitude" (p. 192). A referent is a thing or set of things (objects, ideas, or behaviors) toward which an attitude may be directed. A criterial referent of an attitude is defined as ". . . a construct that is the focus of an attitude that is significant and relevant for the individual" (p. 193). What is criterial for one individual may however not be criterial for another.

Kerlinger and his colleagues suggested that the universe of attitudinal referents in the sphere of education fall into two subsets, "progressive" and "traditional."

Kerlinger states:

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For the traditionalist, for example, discipline, subject matter, moral standards, and certain other referents are criterial; his educational attitudes cluster around them. Such referents as child needs, individual differences, and social learning, criterial to the progressive, are not usually criterial to the traditionalist. (Kerlinger and Pedhazur, 1966, p. 11)

The degree of correspondence between the Kerlinger notions of "progressivism" and "traditionalism" and the way in which Dewey defined those terms is quite apparent. The criterial referents alluded to by Kerlinger are essentially the key concepts in Dewey's definitions.

In a subsequent program of research Kerlinger and his associates explored the dualistic aspect of attitudes toward education. The schematic paradigm in Table 2-2 represents their theoretic model.

The results of that research will be discussed in detail in the next section. It is suffice to state here that the general conclusion reached substantiated the hypothesis that educational attitudes are Table 2.2.--Paradigm of Kerlinger's Theory of Attitudes Toward Education (Kerlinger, 1956, p. 296).

	(A) Attitudes				
1.	Restrictive-Traditional (Dependence-Heteronomy)	2.	Permissive-Progressive (Independence-Autonomy)		
	(B) Areas				
a.	Teachingsubject matter- curriculum	b.	Interpersonal Relations		
k.	Normative-Social (conventionalism-non- conventionalism)	m.	Authority-Discipline		

dualistic rather than bipolar. That dualism was reflected in two relatively independent dimensions which can legitimately be labeled traditionalism and progressivism.

Traditional/progressive attitudes toward education in this study were operationally defined as scores attained on Kerlinger's Education Scale VII, a questionnaire emanating from his research in this area.

# Progressive/Traditional Attitudes and Open Education

It is the contention of the writer that progressive/traditional attitudes toward education reflect basic philosophies of education which may be manifested in many ways when implemented within the context of the real world. Support for this claim is forthcoming from students of progressive education and from that little research which is available.

Writing in the British context Roger Dale (1979) has asserted that:

. . . what progressive education is at any given moment is the result of a complex of factors, depending as much on the climate into which it is launched as on the aspirations of those claiming the label for their own theories. (p. 206)

Similarly Bowers (1967) has asserted that:

If one must formulate a thesis that applies to the entire history of progressive education, it would be that the interpreters and leading theoreticians of progressive education mirrored the different stages in the development of liberal social and political thought. (p. 453)

The present day variant of progressivism is commonly termed open education. That it is a variation on the progressive theme is the conclusion reached by several researchers who have explored similarities and differences in the two ideas.

In a recent study O'Leary (1976) examined the works of Dewey and compared the major tenets of his philosophy with characteristics of open education as defined in the literature and as expressed by teachers and administrators in open schools. He concluded that although there were some critical differences, many of the premises which characterize present day open education are identical to aspects of Dewey's philosophy.

In a study designed to explore parallels between Dewey's views of progressive education and Goodlad's views of open education (those authors were considered the leading proponents of the two viewpoints). Mulloy (1977) indicated that the following conclusions seemed justified.

1. There exists a positive correlation between Progressive Education and Open Education in the following areas: The concept of the learner, the curriculum of the school, and the role of the teacher. 2. Progressive Education was found to be a forerunner of Open Education and influenced the development of Open Education. 3. Progressive Education and Open Education were found to contrast only in areas of historical development. Areas in which differences were found included scientifically advanced audio-visual equipment, data processing and computer science, and new concepts in school design. (p. 182-A) Reschly and Sabers (1974) explored the same issue in a different manner. They compared the results of Kerlinger's Attitudes Toward Education Scale with scores on a 40-item scale measuring attitudes toward open education. They reported a close correspondence between open and progressive education.

Figure 2-1 is a graphic representation of their main finding.



Figure 2-1.--Correlations among progressive, traditional, and open education attitudes.

The foregoing conclusions of both historical and empirical research suggest that progressive and open education share many common elements; so much so that some writers refer to open education as neo-progressivism (Rogers and Church, 1975).

Of particular importance to the present study is the historical development of open education. Although its philosophical roots can be traced to Dewey, Rousseau, Froebel and others, the open education movement as a distinct variation of the progressive theme emerged first in the primary schools of England. The practices which evolved in that setting have variously been labelled, "the integrated day," "child-centered education," "informal teaching" and the "Leicestershire Plan." Those developments spurred on by a nationally commissioned report (Plowden, 1966) attracted the attention of many North American educators resulting in a virtual pilgrimage to Britain to observe classrooms first hand. Barth (1972) documents ". . . a substantial literature of 'journals' of these visitors" (p. 9). He further states that although British primary education and open education are not synonymous, evidence, suggests that in the mid 1960s one-third of the primary schools in that nation could be characterized as open. The evidence he cites is the Plowden Report which suggests that an additional one-third of British primary schools had been influenced to some extent.

In the present study an attempt was made to assess the impact of a student teaching practice in British schools upon progressive/ traditional attitudes toward education. A description of those schools, to be presented later, will focus on the extent to which they could be characterized as being "open."

In conclusion, for purposes of this study, progressive attitudes toward education as measured by Kerlinger's Education Scale VII are reflective of a basic philosophical position which at present is manifested to a considerable extent in the implementation of open education classrooms.

#### Research Regarding Progressive/Traditional Attitudes Toward Education

The following review of research regarding progressive/ traditional attitudes toward education has been subdivided into four sections: (1) research validating the theoretical basis, (2) research

relating progressive/traditional attitudes to teacher traits and behaviors, (3) research concerning the attitudes of teachers, and (4) research concerning educational attitudes and teacher education.

#### Research Validating the Theoretical Basis of Traditional/Progressive Attitudes Toward Education

In two studies reported in 1958, Kerlinger utilized Q methodology to measure attitudes toward education. The studies were based on four propositions:

- A. Individuals having the same or similar occupational or professional roles will hold similar attitudes toward a cognitive object which is significantly related to the occupational or professional role. Individuals having dissimilar roles will hold dissimilar attitudes.
- B. There exists a basic dichotomy in the educational values and attitudes of people corresponding generally to "restrictive" and "permissive," or "traditional" and "progressive" modes of looking at education.
- C. Individuals will differ in degree or strength of dichotomization, this being a function of occupational role. The extent of knowledge of the cognitive object (education) the importance of the cognitive object to the subjects and their experience with it.
- D. The basic dichotomy will pervade all areas of education, but individuals will tend to attach differential weights to different areas, specifically to the areas of (a) teaching-subject matter-curriculum, (b) interpersonal relations, (c) normative (roughly social issues connected with education), and (d) authority-discipline. (Kerlinger, 1958A, pp. 81-92)

As explained earlier Kerlinger defined restrictive-traditional

attitudes as those which place emphasis on the importance of subject matter, external discipline, and on preserving the status quo. By contrast, permissive-progressive attitudes emphasize problem solving, self-discipline, and education as an instrument of social change.

The two samples, one from the mid-western and the other from the eastern United States, each consisted of three sub-groups; professors

of education, liberal arts professors and laymen. The results of the two studies indicated that:

Propositions 1, 2, and 3--on roles and attitudes; on the basic dichotomy in educational attitudes; and on the degrees of dichotomization varying with role, knowledge, and importance of the cognitive object (education) to a person and with his experience with the object--seem to have been substantiated. Proposition 4--that individuals would attach differential weights to different areas of education (teaching--subject-matter--curriculum, authoritydiscipline, etc.)--was not substantiated. In addition, the two studies seemed to identify two independent factors behind educational attitudes, "Progressivism" and "Traditionalism." It was also found that the professors of the two samples, especially the education professors, were mostly "progressive" and that the laymen were mostly "traditional." Further, the education professors were very consistent; they clearly differentiated between the restrictivepermissive dimensions of the studies, and they leaned rather strongly toward permissiveness. The liberal-arts professors, too, tended to differentiate these two dimensions in the permissive direction, if not so strongly as the education professors. The laymen chosen for the studies did not make this differentiation at all clearly; they tended to be inconsistent and mixed up in their educational attitudes. (Kerlinger, 1958B, p. 91)

In subsequent studies using Likert-type scales and factor analysis, Kerlinger and his associates expanded upon and refined those earlier efforts. The results confirmed earlier indications of two relatively uncorrelated factors that closely resembled Dewey's description of educational progressivism and traditionalism. The two factors were shown to be dualistic rather than bipolar. In other words, it is entirely possible for one person to be traditional in certain areas and permissive in others.

In a later study Sontag and Pedhazur (1972) tested the validity of Kerlinger's interpretation of the duality of progressivism and traditionalism and were led to conclude that "The results as far as Kerlinger's scales are concerned, corroborate his earlier findings" (p. 198). The last study to be discussed here was conducted in Australia by McAtee and Punch (1977). Their research confirmed that the educational attitudes of Australian teachers conformed to the two dimensional structure proposed by Kerlinger. In addition the ES VII was shown to be an effective measure having desirable psychometric properties and with a "clean" and stable dimensional structure.

There is much evidence both a priori and empirical to support the reality of traditional and progressive attitudes toward education. Kerlinger (1958B) states:

They are also probably real in the practical sense that they influence our behavior as educators and as laymen. More accurately, they are action dispositions of philosophies of education. The educational decisions we make, what we teach, what we learn, and how we interact with other persons on educational matters are, of course, influenced by our educational attitudes and values. (pp. 90-91)

This particular point however needs corroboration. The elusive connection between attitudes and behavior is one that is difficult to prove. The following section deals with that particular issue.

#### Research Regarding Progressive/ Traditional Attitudes and Teacher Traits and Behaviors

One of the assumptions underlying this study is that beliefs, attitudes, and values influence behavior; that they represent predispositions to respond in certain ways. This, of course, does not assume a one-to-one correspondence or a perfect correlation between attitudes and behaviors. The exigencies of the everyday world influence our actions and serve to dilute the relationships between attitudes and behavior, hence the difficulty in tracing behaviors to attitudinal stimuli. There is, however, some evidence to substantiate a relationship between progressive/traditional attitudes toward education on the one hand and teaching behavior on the other.

For example, Kerlinger and Pedhazer (1967) found a significant relationship between traditional/progressive attitudes toward education and perceptions of desirable teacher characteristics.

Similarly, Sontag (1967) examined the relationships between attitudes and perceptions of teacher behavior. A significant correlation was established between "progressivism" and "concern for pupils" for elementary school teachers but not for their high school counterparts. In the case of the high school teachers, "traditionalism" correlated with "structure and subject matter."

The evidence from these two studies is, however, weak in that it only establishes a connection between attitudes and "perceptions" of behavior. The step from general attitudes to perceptions of teacher traits and behaviors may be considered only as a small increment in establishing an attitude--behavior connection.

The strongest evidence of a connection between teacher attitudes and teaching styles is forthcoming from a recent study conducted by Bennett (1976) in Britain. In that landmark study, Bennett attempted to examine the relationship between teaching styles and pupil progress. One aspect of his work was the analysis and description of teaching styles ranging from the extremely informal (which he equates with progressive) to very formal (traditional). He identified a typology of twelve styles which for many of his analyses he collapsed into three categories; informal, mixed, and formal. Type one was described in this manner.

These teachers favour integration of subject matter, and, unlike most other groups, allow pupil choice of work, whether undertaken individually or in groups. Most allow pupil choice of seating. Less than half curb movement and talk-assessment in all its forms--tests, grading, and homework--appears to be discouraged. Intrinsic motivation is favoured. (p. 45)

Type twelve at the other extreme was described thus:

This is an extreme group in a number of respects. None favour an integrated approach. Subjects are taught separately by class teaching and individual work. None allow pupil choice of seating and every teacher curbs movement and talk. These teachers are above average on all assessment procedures and extrinsic motivation predominates. (p. 47)

Bennett states that the types have been subjectively ordered in distance from the most informal (type 1). However, he cautions against placing the twelve types along a formal-informal continum. He states the extreme types could be adequately described in these terms but the remaining types contain both informal and formal elements. It is interesting to note that this is congruent with Kerlinger's finding that it is possible for an individual to be progressive in one area (for example subject matter) and traditional in another (for example, discipline).

A second aspect of Bennett's study was an attempt to assess the congruence of the educational aims, opinions about educational issues, and opinions about teaching methods of the teachers in each of the twelve teaching types with their actual teaching behaviors.

The author concluded:

Asking teachers to pass judgements on aspects of both formal and informal methods has proved to be a fruitful mode of inquiry. Both informal and formal teachers were effective counsels for the defense of their own methods and probing prosecuting counsels against each other's methods. Mixed teachers were more akin to interested fairly unconvinced observers.

These analyses . . . confirm that opinions about teaching methods are firmly held and that in general, opinions relate strongly to classroom practice. (p. 78)

Similar relationships existed with regard to attitudes toward educational aims and educational issues as well as with regard to opinions about teaching methods.

In commenting on this finding, Hunt (1976-77) stated:

. . . it would seem that such clear-cut relations between beliefs of teachers and their actual classroom teaching has considerable implication for the introduction of educational innovation. These results suggest that teacher beliefs must receive much more attention than previously acknowledged if change in teaching behavior is expected. (p. 39)

This seems to be the strongest evidence available that attitudes toward education are reflected in teaching styles and teaching behavior.

# Research Concerning the Educational Attitudes of Teachers

In this section a summary of research findings regarding the educational attitudes of teachers will be presented. Included in this summary is that information which is available regarding cross-cultural comparisons.

In a recent study conducted in Westchester County, New York, Orsini-Romano (1978) compared the attitudes of pre-service, in-service, and re-entry teachers. Using the Kerlinger Education Scale VII, she determined that more teachers held mixed attitudes toward education than held either progressive or traditional beliefs and of the three groups pre-service teachers had the highest percentage of individuals with mixed belief systems.

In North Carolina, Berghoff (1979) found that there were no significant differences in attitudes toward education (as measured by the Es-VII) between working teachers and pre-service teachers in the fields of elementary education and mental retardation. In a study conducted in Western Australia, McAtee and Punch (1977) reported that traditionalism/progressivism did not relate to sex or size of school. However, more highly qualified teachers were more progressive than less qualified teachers, and teachers of English and music were more progressive than those in foreign languages, typing and commerce. Teachers of social studies, mathematics, science, manual arts, and home economics were somewhere between the two extremes.

In an earlier study conducted in Australia, Wheeler (1960) utilized Kerlinger's Education Scale I and II (forerunners of the ES VII) to assess the educational attitudes of various groups involved in Australian education. On the basis of analysis of variance, those groups were collapsed into three categories. Category one included lecturers at teachers colleges, school supervisors and specialist; category two encompassed secondary and primary head teachers as well as primary teachers and the third category consisted of secondary teachers.

These three categories are arranged in descending order of progressivism. This led the author to generalize that ". . . the occupational role within this educational system was the major determinant of educational attitude as shown by scores on these tests" (p. 161).

Although one may question the inferred causality in the foregoing quotation, it is nevertheless interesting to note that lecturers were more progressive than school principals and primary and elementary (in North American terminology) teachers and in turn they were more progressive than were teachers at the secondary level. The finding regarding the relationships between teaching level (elementary and secondary) and progressivism confirms the conclusion reached by Sontag (1968).

That particular conclusion received additional support from Brown (1973) who conducted a study at The University of New Mexico. He found that elementary teachers were significantly less traditional than were secondary teachers.

With regard to subject area, Brown found that science teachers were more traditional than were English teachers. This he postulated was a result of the fact that English teachers have greater contact with the study of philosophy than do science teachers. Whatever the explanation, his finding in this area is in close agreement with that reported by McAtee and Punch in Australia.

This review of research has failed to turn up any study which has utilized the Kerlinger scales to assess attitudes toward education in cross-cultural settings. Nevertheless the results of several studies using other measures seem to be pertinent if only as indications of what one might expect.

For example, Dickson (1966) and his associates used the Teacher Characteristics Index developed by Ryan and the Minnesota Teacher Attitudes Inventory (MTAI) to compare British college of education students with teacher education students in the United States. Although the MTAI scores showed no significant cross-cultural differences, scores attained on the Ryan Teacher Characteristics Index revealed that prospective teachers preparing to teach at the primary level in Britain were more child centered than were students in the United States. Furthermore the prospective primary teachers in England were more child centered than were those preparing to work in secondary schools in that country but both British primary and secondary student teachers scored above their American counterparts in child-centeredness. McLeish (1969) used a variety of questionnaires to assess the attitudes of a large sample of British, Commonwealth, and American student teachers, teachers college lecturers, and graduate students. Education lecturers were the most progressive and Commonwealth teachers the least so. In addition, American teachers were found to be less child-centered when compared with English and Antipodean teachers. McLeish states that this confirms earlier research indicating that "... American teachers are much more 'method-conscious' and subjectoriented in their educational attitudes than are English teachers" (p. 10).

One aspect of the present study was the assessment of attitudinal changes of student teachers from the University of Newfoundland after having completed student teaching in schools in Harlow, England. No information is available concerning differences of attitudes of teachers in training in Newfoundland and teachers in Britain. However, one subject of the attitudinal referents under discussion, namely discipline and control, has been studied.

Using the Pupil Control Ideology Form, Walker (1973) assessed the extent of custodial/humanistic orientations of student teachers at Memorial University of Newfoundland. Similarly, Regular (1973) used the same instrument in a study of secondary school teachers in Harlow, England. The Pupil Control Ideology Form is a 20-item Likert-type instrument which purports to measure the extent to which subjects are humanistic or custodial in their pupil control ideology.

Custodial and humanistic schools are characterized by the authors of the scale in the following manner.

The rigidly traditional school serves as a model for the custodial orientation. This kind of organization provides a highly controlled setting concerned primarily with the maintenance of order. Students are stereotyped in terms of their appearance, behavior, and parents' social status. They are perceived as irresponsible and undisciplined persons who must be controlled through punitive sanctions. Teachers do not attempt to understand student behavior, but, instead, view it in moralistic terms. Misbehavior is taken as a personal affront. Relationships with students are maintained on as impersonal a basis as possible. Pessimism and watchful mistrust imbue the custodial viewpoint. Teachers holding a custodial orientation conceive of the school as an autocratic organization with rigidly maintained distinctions between the status of teachers and that of pupils: Both power and communication flow downward, and students are expected to accept the decisions of teachers without question. Teachers and students alike feel responsible for their actions only to the extent that orders are carried out to the letter.

The model of the humanistic orientation is the school conceived of as an educational community in which members learn through interaction and experience. Students' learning and behavior is viewed in psychological and sociological terms rather than moralistic terms. Learning is looked upon as an engagement in worthwhile activity rather than the passive absorption of facts. The withdrawn student is seen as a problem equal to that of the overactive, troublesome The humanistic teacher is optimistic that, through close perone. sonal relationships with pupils and the positive aspects of friendship and respect, students will be self-disciplining rather than disciplined. A humanistic orientation leads teachers to desire a democratic classroom climate with its attendant flexibility in status and rules, open channels of two-way communication, and increased student self-determination. Teachers and pupils alike are willing to act upon their own volition and to accept responsibility for their (Willower, Eidell, and Hoy, 1967, pp. 5-6). actions.

Although no correlations between Kerlinger's ES-VII and The

Pupil Control Ideology Form are available, it seems reasonable to conclude from the descriptions that the Pupil Control Ideology Form may measure one aspect of the domain of attitudes tapped by the Kerlinger scale.

The Walker and Regular studies found that the mean Pupil Control Ideology scores of student teachers in teacher education programs at Memorial University were higher (more humanistic) than were secondary school teachers in Harlow, England. This finding is particularly difficult to interpret. First, all three levels of students in the Newfoundland sample (primary, elementary, and secondary) were compared to the British secondary school teachers only (the British sample did not include primary or elementary teachers). As already indicated research to date suggests a differentation by teaching levels.

A second confounding variable is the effect of utilizing a scale developed within The North American context in another setting. For example, it has been shown that the Minnesota Teacher Attitude Inventory (a similar instrument) which has been developed in the United States, is unsatisfactory within the British context. It has been found that some rewording of items may be necessary (Lomax, 1973). The same might be true of the Pupil Control Ideology Form. Nevertheless, even with the problems of interpretation, these findings may be indicative of actual differences between the two groups with regard to the particular set of attitudes assessed.

#### <u>Research Regarding Progressive/Traditional</u> <u>Attitudes and Teacher Education</u>

In Chapter I reference was made to the many studies which have suggested that during their educational studies, prospective teachers experience upturns in attitudes toward teaching children. They become more liberal, humanistic, and progressive. Many of these studies also report a downturn of attitudes during the student teaching phase of teacher preparation. The instruments used in those studies varied from The Pupil Control Ideology Form, The Minnesota Teacher Attitude Inventory, Kerlinger's Education Scales, and other popular or especially designed instruments.

The review in this section will focus on two studies which used the Education Scale VII (the one used in this study) to measure attitudes toward education. Both studies report consistent findings.

Wiley (1972) found that at Missouri State College:

Data indicated that the education faculty tended strongly toward progressivism, the cooperating teachers toward conservatism, and student teachers were about midway between the two. As a result of on-campus "block" courses, student teachers moved strongly toward progressivism, but regressed toward conservatism during student teaching. (p. 1)

At Kansas State College of Pittsburg, Harrison's (1967) findings substantiated Wiley's conclusions. Harrison found that the progressive attitudes of students shifted toward the more traditional scores of cooperating teachers during the student teaching experience. Primary level students held significantly more progressive attitudes than did either intermediate or secondary level student teachers. At the secondary level those in the social sciences and in art were more progressive than students in the other disciplines.

These studies confirm the results of many studies conducted over the past two decades using the MTAI as a measure of attitudes. This is probably to be expected since studies have shown a strong correlation between scores on the MTAI and the ES VII (Padgett, 1969).

No studies utilizing the ES VII to assess attitude changes as a result of cross-cultural experiences have surfaced in the writer's review of research.

### <u>Summary of Review of Progressivism</u>/ <u>Traditionalism Research</u>

Even a cursory examination of the literature regarding progressivism and traditionalism leads one to the inevitable conclusion

that those terms are seldom used in a value-free manner. In practically all of the studies regarding attitudional changes experienced by student teachers the move toward progressivism is seen as a "good" and traditionalism as somewhat less desirable. The pejorative manner in which the terms have been used has tended to cloud interpretations with researcher bias and commitment.

Nevertheless the foregoing review suggests the following tentative conclusions.

- Progressive/traditional attitudes to education as measured by the Kerlinger Education Scale VII closely resemble Dewey's definition of those terms.
- Attitudes toward education are essentially dualistic rather than bipolar hence an individual may be progressive in one area and traditional in another.
- 3. There is some evidence to suggest that attitudes of teachers are reflected in their teaching styles and behaviors.
- 4. Research regarding the relationship between various demographic and programmatic factors and progressivism/traditionalism is inconclusive. However it seems that elementary and primary teachers as a group tend to be more progressive than secondary teachers.
- During on-campus studies prospective teachers tend to move toward a greater degree of progressivism and during teaching practice move toward traditionalism.
- The study of changes of educational attitudes as a result of cross-cultural student téaching would seem to be a completely unresearched area.

#### Receptivity to Educational Innovation--Conceptual Analysis

The vast literature concerning innovation and change is fraught with conceptual and semantic confusion. There are few commonly accepted definitions which can serve as stable guideposts to exploration of that enormous body of writing. Unfortunately those guideposts which do exist are all too often rooted in the shifting sands of personal preference, research expediency, and philosophic bias. There does not even seem to be a consensus regarding how the term 'innovation' is to be defined and boundaries of terms such as 'receptivity', 'innovativeness', and 'change-orientation' are even more nebulously specified. Since one of the variables under study has been labelled "Receptivity to Educational Innovation" it is requisite at this point, particularly in light of the absence of a well-established terminology, to denote the territory encompassed by the concepts involved and to analyze their most important connotations.

In <u>The Second Handbook of Research on Teaching</u>, Chin and Downey (1973) attempted to discriminate among the various ways in which the term 'innovation' is used. Their analysis is presented in the following paragraph.

The first and common approach to defining innovation is objective. The objective innovation is defined as "new" or something changed in a significant and substantial respect. A second approach is quantitative-innovations which are ideas and practices or materials not yet adopted by a specified percentage, e.g., 10 percent or less. A third approach is to label a new total package as an innovation. For example, in education, a different technology of teaching, as computer aided instruction, team teaching, or modular scheduling is an innovation. Here the idea or practice is labeled an innovation by the innovator. A fourth approach is in terms of defining an innovation by the critical factor of the <u>effects</u> on behavior. A fifth approach defines innovation as perceived as new . . . it does not matter

if the idea is objectively new; as long as the idea seems new and different to the individual . . . (pp. 522-523)

Some of the distinctions drawn by Chin and Downey are subtle but nevertheless real. In much of the research regarding innovation the precise manner in which that variable is being used is not explicitly stated.

The foregoing comment applies equally well to research regarding 'receptivity.' That term is often imprecisely defined. As Kazlow (1977) has pointed out it is sometimes equated with resistance, although some authors use resistance to refer to overt acts. She discusses two explanations of receptivity in some detail. One is a psychologically based perceptive and posits that receptivity is symptomatic of or the result of such personality characteristics as motives, values, attitudes, and beliefs.

The second explanation coming from a sociological perspective suggests that receptivity is a function of perceived role demands and expectations. From this viewpoint the degree of receptivity depends on whether the innovation (receptivity within this framework is seen as being innovation-specific) is seen as enhancing one's prestige, money, influence, or organizational status.

Regardless of the reasons or motives (whether they be psychological or rooted in a social context) Kazlow defines receptivity as "... how people are oriented internally toward proposed innovations and not how they <u>behave</u> in relation to those innovations" (p. 87).

The "internal orientation" aspect of Kazlow's definition is akin to the "willingness to change" component of many definitions of "innovativeness." However there is an inherent ambiguity in the use

of "innovativeness" stemming from the double meaning associated with the use of the term in everyday discourse. On one hand innovativeness can be viewed as an internal orientation or favorable attitude toward change regardless of whether one has in fact accepted or adopted innovative practices or behavior. On the other hand, innovativeness when associated with behavior can only be assessed by examining the number of innovations adopted, or the rate at which they are adopted, or by using some such similar yardstick of adoption behavior. It is not surprising therefore that this duality of interpretation is reflected in the literature. Only by examining the instruments used to measure innovativeness can one have any idea or to what actually is being measured. As Giacquinta (1975) points outs, measures of behavior (for example adoption of innovations) are taken as indicative of attitudes or states of mind and vice versa, attitudinal reports are posited as indicators of actual behavior. He concludes that ". . . research investigators have often obscured the differences between members feeling and thought and actions, and some have assumed their one-to-one correspondence in reality without adequate justification" (p. 1975).

Before deciding on a definition of receptivity it is helpful to review what is known about the adoption process. Most work in this area has focused on what is commonly referred to as the stage concept. The assumption is that an individual goes through a series of stages before actually adopting an innovation.

For example in his early work, Rogers (1962) used a five stage model.

- 1. <u>The awareness stage</u>--at this stage an individual is exposed to the innovation but lacks complete information about it.
- 2. <u>The interest stage</u> indicates the period when the individual becomes interested in the new idea and seeks further information.
- 3. <u>The evaluation stage</u> is the stage at which the individual mentally applies the new idea to his situation and decides whether or not to try it out.
- 4. <u>The trial stage</u> is as the name suggests a period of time when the innovation is tried on a small scale.
- 5. <u>The adoption stage</u> is the point at which the individual decides to continue full use of the idea or innovation. (pp. 81-86)

Miles (1964) has suggested that the adoption of an innovation

#### procedes in four stages:

- <u>design</u>-the innovation is invented, discovered, made up out of whole cloth, produced by research and development operations, etc.;
- <u>awareness-interest</u>--the potential consumers of the innovation, that is, members of the target system, come to be aware of existence of the designed innovation, become interested in it, and seek information about its characteristics;
- 3. <u>evaluation</u>--the consumers perform a kind of mental trial of the innovation, and form pro/con opinions about its efficacy in accomplishing system goals, its feasibility, and its cost;
- trials--the target system engages in a usually small scale trial of the innovation, in order to assess its consequences. (pp. 19-20)

Many variations of these two basic adoption schedules have been
proposed. However, common to all of them is the notion that after one
has garnered basic information (or misinformation) attitudes (either
positive or negative) toward the innovation are formed or changed.
Rogers, for example, is quite explicit about this point in a book published in 1971. In that presentation he expressed reservations about
the chronological sequence implied in the stage concept and suggested
a four "function" process involving (1) knowledge, (2) persuasion,
(3) decision, and (4) confirmation. Persuasion was specifically defined
as the formation of favorable or unfavorable attitudes toward the
innovation (Rogers, 1971, p. 103).

Earlier in this report attitude was defined as an enduring structure of evaluative beliefs which predispose an individual to respond to selective ways to an attitude referent.

With attitudes defined as predispositions to behavior, it seems reasonable to argue that the formation of positive attitudes is an important requisite in whether an individual eventually decides to adopt an innovation.

It follows that those who have basic information about and have positive attitudes toward an innovation are receptive to that particular innovation. This, of course, does not assume that adoption automatically follows. Such a simplistic connection would ignore the many contextual variables which exert influence upon, and determine the behavior of individuals. Likewise adoption decisions may be rooted in reasons other than sets of favorable attitudes. However, favorable attitudes would seem to be requisite to an unencumbered adoption decision.

Receptivity then is a predisposition to adopt which in turn may be defined as the holding of positive attitudes toward an innovation. In terms of the formalistic definitions of attitude presented earlier, the particular innovation is the attitude referent.

An extension of this reasoning would suggest that one method of measuring the extent to which an individual might generally be receptive to innovations in a particular field such as education, would be to solicit that person's attitudes toward a sampling of specific innovations. Thus receptivity can be seen as an embracing concept composed of units of behavior (reactions to specific innovations) which are indicators of the more general attribute (receptivity). Support for the validity of such a contention is forthcoming from a study by

Haven (1973). She found that teachers who were in favor of accepting a particular educational innovation tended to be in favor of accepting other innovations.

Such an approach differs from assessing change orientation in that it elicits attitudes toward a set of representative innovations within a specified area of human endeavor whereas change orientation refers to a more global conception of attitudes toward change generally (in the many fields of human activity) rather than toward specific innovations in one field. It will be recalled that in the conceptual analysis of the term 'dogmatism' a somewhat parallel distinction was made between 'dogmatism' and 'rigidity.' It is probably now clearer that although a relationship may exist between dogmatism and change orientation, it does not hold that a close correspondence would exist between dogmatism and receptivity to educational innovation. In that area a person may be quite rigid while being generally quite open-minded otherwise.

In addition to the foregoing, receptivity to educational innovation as defined here is situational and time-specific whereas changeorientation is viewed as applicable across times and situations.

The foregoing distinction is more easily understood when viewed in light of the definition of 'innovation' adopted for this study. The basis of that definition emanates from the work of Presser (1969). He suggests the following:

An innovation is something new and novel in human knowledge and experience. It has a point of origin in place and time. At its point of origin it must be an innovation, but is more commonly called an invention. . . In time, as knowledge and use of the innovation diffuse to other people in the surrounding area, the idea ceases to be an innovation in that area. It becomes a practice, then a common practice. While it is a common practice

in one area it may be an innovation in another. An idea is an innovation at different places at different times. (pp. 510-511)

Table 2-3 schematically presented Presser's ideas.

Table 2-3.--Relationship Between Time and Place and an Innovation, a Practice, or a Common Practice for One Idea (Presser, 1969, p. 511).

		Time 1	Time 2	Time 3	Time 4
Place 1	Title Behavior	Innovation Deductive Thinking Experimentation and Testing Alternatives	Practice Adoption	Common Practice Adoption	
Place 2	Title Behavior	 No Knowledge	Innovation Local Testing	Practice Adoption	Common Practice Adoption
Place 3	Title Behavior	 No Knowledge	 No Testing	Innovation Local Testing	Practice Adoption

This suggests that the term innovation can only be precisely defined if both time and place are specified.

With this in mind an educational innovation is herein defined as an idea, practice or thing which represents a departure from traditional or normal educational practice in a given area at a specific point in time.

The foregoing suggests the principles upon which the construction of the receptivity scale for this study has been based. Detailed discussion of the construction of that scale will be presented in Chapter III.

#### Research Regarding Receptivity to Educational Innovation

While the research literature concerning innovation is extensive, very little of that work has focused on receptivity. The present review has failed to unearth any investigations of receptivity of student teachers and only a few studies dealing with receptivity among practicing educators.

In fact, in a recent paper McGeown (1979) concluded that:

Research has stopped short of a searching examination of the teachers perspective both in terms of his role in the total process of innovation and in relation to those aspects of "the phenomeno-logical world of the teacher" which may influence the implementation of changes. (p. 1)

While many researchers have focused on innovativeness (usually operationally defined in terms of the number of adopted innovations), few have examined attitudes toward or receptivity to innovation.

Although little evidence central to the thrust of this study has been found, some peripheral work is instructive. That work has been grouped under two headings: (1) the role of the teacher in educational innovation, and (2) personality correlates of receptivity to innovation.

#### <u>The Role of the Teacher in</u> <u>Educational Innovation</u>

It is one of the assumptions of this work that the study of teacher (or student teacher) attitudes toward innovation is a potentially worthwhile approach to studying educational change. Not all writers, however, have accepted this assumption. For example, Wayland (1964) has characterized teachers as powerless functionaries working within bureaucratic structures which circumscribe their role and dictate their actions.

Given such a conceptualization, innovation is seen as being instituted in a top-down manner with the teacher essentially obeying directives.

The writer rejects this deterministic view of the teacher for two reasons. First, although it may account for one aspect of reality within structural organizations such as public schools, it is too myopic to provide a comprehensive picture. Simply put, the attitudes, beliefs and values of teachers cannot be ignored in any encompassing portrayal of what happens within schools. To overlook that fact is to overlook one obvious feature of the decision-making process in those organizations. Thus, this view is rejected on logical grounds.

The second reason for rejecting the notion that teachers are powerless functionaries rests upon empirical grounds. There is much evidence suggesting that attitudes of teachers are vital to successful innovation even in tightly organized hierarchical systems.

For example, Gross (1971) and his associates examined an unsuccessful attempt to change teacher roles in an inner-city elementary school from a traditional orientation to a more open, progressive one labelled "the catalytic role model." They attributed lack of success to the fact that little attention had been paid to the problems of resocialization of teachers. The need to attend to such resocialization was evident not only among those who might have been resistant to the innovation but also among those who were sympathetic to the change but needed help in its implementation.

Similarly, Michelson and Armstrong (1973) stress the need for congruency between the attitudes of those who originate innovative projects and those who are expected to implement the innovation. If

there is lack of congruence the authors conclude that attempts at institutionalizing the innovations are doomed to failure. They found that team teaching failed to take hold in British Columbia because the locus of support was not based with classroom teachers but rather with others particularly principals and superintendents.

These findings regarding the relationship between attitude toward innovation and adoption behavior are supported by the results of Stahl's (1972) study of teachers in Florida. He found that teachers who held positive attitudes toward behavioral objectives were more prone to adopt that particular innovation.

A study of open schools conducted by Bettas (1974) has substantiated the foregoing conclusions. In that research it was found that the extent of successful implementation of new instructional practices was influenced by the attitudes of the teachers involved. The implication drawn was that there is a greater chance for innovative behavior if the proposed innovation is consistent with teacher attitudes.

After reviewing innovation studies which focused on the role of the user, Fullan (1972) asserted that:

The modal process of change has been characterized by a pattern whereby innovations are developed external to schools and then transmitted to them on a relatively universalistic basis. . . The values and goals of users as articulated by them have no direct influence in the process. The results are that downward innovations do not take hold . . . (p. 15)

He concluded that ". . . educational change requires at least three ingredients: (1) Organizational structures and attitudes among authorities that create the opportunity and expectation to innovate; (2) Attitudinal receptivity to change on the part of users; (3) Skills and competencies of users to perform the new roles" (p. 12).

Taken together, the results of the studies reviewed in this section support Fullan's contention. Although teachers may not often lead change, they can exert considerable influence on the change process by either resistance toward or acceptance of new ideas and practices.

#### Research Regarding Personality Correlates of Receptivity to Innovation

As iterated earlier, few studies have focused on the personality correlates of receptivity; however numerous studies have examined the relationship of background variables to innovativeness (defined on the basis of earliness or lateness of adoption of an innovation). Extrapolations from those findings provide some insights regarding the types of individuals who tend to adopt changes earlier than others.

The framework for many studies of innovators has been provided by Rogers and Shoemaker (1971). Their research regarding rates of adoption has resulted in the following topology.





In a review of numerous studies utilizing the foregoing model, Rogers and Shoemaker (1971) ". . . gleaned over 3,000 findings relating various independent variables to innovativeness" (p. 185). The following represent the generalizations which are germane to the field of education and to this particular study.

Early adopters, when compared to late adopters, tend to (1) be more highly educated, (2) have greater empathy, (3) be less dogmatic, (4) have a greater ability to deal with abstractions, (5) have a more favorable attitude toward change, (6) have a more favorable attitude toward risk, (7) have a higher level of achievement motivation, (8) have more social participation, (9) be more cosmopolite, (10) have more change agent contact, (11) have greater exposure to interpersonal contact, and (12) seek information about and have greater knowledge of innovations (pp. 185-191).

It is to be noted that the foregoing are generalizations based on a large number of findings. It should not be construed that no evidence exists to contradict any of the above; rather, the weight of evidence seem to substantiate these conclusions.

One of the relationships (that existing between dogmatism and receptivity) will be explored later in this chapter. Of the other conclusions reached by Rogers and Shoemaker, those dealing with cosmopolitanism, risk, exposure to interpersonal contacts, contact with change agent sources, and seeking information regarding innovations are particularly relevant to this study. One of the populations under study consists of individuals who apply to participate in a student teaching program in a foreign country in a school system quite different in many respects from the one with which they are familiar. It seems reasonable to hypothesize that such individuals would be more venturesome, more risk-oriented, more cosmopolite in outlook, more amenable to interpersonal contacts and more receptive to new and

different practices than would be those who opt to remain in a familiar setting to complete their student teaching practicum. In a later publication, Rogers presented two additional pieces of evidence which support the hypothesis presented here. The first of those pieces of evidence relates to the extent of travel of innovators. It has been found that innovators travel widely and participate in affairs beyond the boundaries of their immediate social systems. Secondly, Rogers (1973) reports that teachers who attend out-of-town educational meetings are more innovative. This evidence, he suggests, highlights the desirability of sending teachers to workshops and conferences where they may gain exposure to new ideas.

To reiterate an earlier caution, it should be understood that the findings of Rogers and Shoemaker are one step removed from the particular relationship under study here. Their findings dealt with personality variables and actual adoption behavior (innovativeness) whereas the variable here is receptivity to or attitude toward innovation which it is argued is a requisite to innovativeness. The Rogers and Shoemaker conclusions are presented as indirect evidence (in the absence of directly applicable evidence) of the relationship posited in this study. No studies of the effect of teacher education programs, student teaching practica, or cross-cultural study upon receptivity to educational innovations have been found.

## Research Regarding the Relationship Among Open-/Closed-Mindedness, Attitudes Toward Education, and Receptivity to Educational Innovation

Although there are potentially three pair-wise relationships to be explored in this study, the research literature is instructive

with regard to only two of those. Relationships between (1) receptivity to educational innovation and dogmatism and (2) dogmatism and progressive/ traditional attitudes toward education will be examined. That meager information which deals with the relationship of receptivity to progressivism will be presented at appropriate points in a separate section dealing with research findings illuminating relationships among all three variables.

### Research Regarding the Relationships Between Open-/ <u>Closed-Mindedness and Receptivity to</u> Educational Innovation

Earlier in this chapter a distinction was drawn between openmindedness and change. Evidence was presented to suggest that generally closed-minded individuals are less able than open-minded individuals to either change old beliefs or learn new beliefs. However, it was suggested that the exact nature of that relationship is not as simple as the foregoing suggests. Ehilich and Lee (1969) for example, have presented evidence supporting the hypothesis that at least five variables intervene to complicate the relationships. Those variables were (1) the authority source of the new beliefs (high-dogmatics may readily adopt a change proposed by a significant authority figure); (2) the syndrome relevance of the mode of communication (open-minded individuals may react against ideas presented in a dogmatic fashion); (3) the belief congruence (closed-minded persons tend to more favorably evaluate belief-congruent ideas and materials); (4) the novelty of the new belief (open-minded individuals have a greater capacity to deal with novel ideas); and (5) the centrality of new belief (central beliefs are more resistant to change than are peripherial beliefs).

In this study, receptivity to educational innovation has been measured by requesting subjects to respond to a Likert-type scale regarding a number of specific innovations. It is quite conceivable that an open-minded individual may respond negatively toward a change or a closed-minded individual positively because of any one or a combination of the foregoing five variables. To present an extreme example, a highly dogmatic teacher may readily accept a new program (such as a new social studies course) if it is presented in a dogmatic fashion, by the school principal, and if the new program is congruent with his or her particular views regarding the teaching of social studies and if he/she dogmatically holds that on the basis of previous experience the program to be replaced is inadequate.

Given this formulation of the dogmatism/change relationship, it is not surprising to find that although research in the area tends to be in the direction expected (high-dogmatics more resistant to change) there are many contradictory findings. The studies will be summarized in two groups; those which showed a relationship between dogmatism and change and those which did not.

The bulk of the studies fall into the first group. Several investigators have concluded that early adopters as a group have significantly lower dogmatism scores (more open-minded) than the group termed by Rogers as laggards. Lin and others (1966), in an investigation of the diffusion of an innovation in three Michigan high schools, Mechling (1970) in a study of diffusion of innovations in science curriculum among elementary school teachers, Apel (1966) in a study of change orientation among adult educators, Russell and Warmbrod (1977) in a
study of vocational teachers and Childs (1965) in a study of Michigan school districts have all reached that conclusion.

Similar findings have derived from studies in fields other than education. For example, both Rogers (1957) and Jamias (1964) have found that the adoption of farm practices is negatively related to dogmatism. In other words, those who were highly innovative tended to be low-dogmatic.

The foregoing are representative of studies which have focused on the relationships between dogmatism and innovativeness as defined either by number of innovations adopted or by the time at which individuals adopted a new idea. Several studies have explored the relationships between (a) dogmatism and change-orientation and (b) dogmatism and attitudes toward innovation (as distinct from actual adoption behavior). Research conducted by (1) Bridges and Reynolds (1968) among 262 elementary teachers in urban, suburban and rural schools of Illinois, Missouri, Kentucky, and Tennessee, (2) O'Reilly and Fish (1976-77) among junior high school teachers in a metropolitan school district, and (3) Renuart (1973) in eleven secondary schools in Dade County, Florida all resulted in the conclusion that teachers high in dogmatism were less receptive to change and innovation.

Similar conclusions utilizing different populations have been found. Ramer (1970) found a significant relationship between superintendents' dogmatism and their receptivity to innovation. Those who were least dogmatic were most receptive and vice versa. The receptivity scale used by Ramer provided the basis for the scale used in this study.

In a study similar to the Ramer study, except that it was conducted with a sample of curriculum directors, Hanssel (1970) found a

negative relationship between the Rokeach Dogmatism scale scores and those on the Ramer Educational Innovation Attitude Scale. This relationship, although in the direction expected, was nevertheless weak.

Finally, in a closely allied investigation, Kerelejza (1967) reached the following three conclusions after assessing the relationship between dogmatism and perceived barriers to curriculum change among a random sample of elementary and secondary school teachers in thirteen school systems in Connecticut.

- 1. Teachers who were closed-minded identified a significantly greater number of total barriers to curriculum change than did teachers who were open-minded.
- 2. Teachers who were closed-minded identified a significantly greater number of external barriers to curriculum change than did teachers who were open-minded.
- 3. Those who were closed-minded identified a significantly greater number of internal barriers to curriculum change than did teachers who were open-minded. (p. 3561-A)

External barriers were defined as emanating in the school plant, other personnel, time constraints, and so forth, whereas internal barriers were considered to be the attitudes, beliefs, and feelings of the teachers themselves.

The Kerelejza study provides additional support for the proposition that dogmatism is negatively correlated with receptivity.

Several research efforts have produced contradictory findings. Hall (1971) found that high-dogmatics were more accepting of changes than were low-dogmatics. This result, the opposite of expectations, was attributed by the author to the manner in which the instruments were administered. Apparently there was no opportunity for discussion of proposed changes and quick answers were required.

In a study by Richards (1978), no relationship was found to exist between teacher change proneness and dogmatism. This lack of relationship in a sample of teachers in innovative and traditional schools in the United States and Canada was explained by the author in terms of the insensitivity of the change proneness scale utilized.

Symington and Fensham (1976) studied the relationship of dogmatism to the adoption of innovative science curricula. Their findings suggest that the expected relationship between open-mindedness and acceptance was confounded by beliefs about the roles of teachers in classrooms and by the teachers' attitudes toward science.

Urick and Frymier (1964) reported no differences in dogmatism between one group of teachers rated by their principals as being most willing to accept change. The authors suggest that design inadequacies may have accounted for the lack of significant correlation.

No studies relating dogmatism and receptivity among student teachers have been found.

In summary, the following conclusions can be drawn from the studies reviewed.

- Generally there tends to be a positive relationship between receptivity toward educational innovations and actual adoption of innovations.
- Generally, dogmatism can be expected to relate negatively to receptivity to innovation. In other words, high-dogmatics will tend to be less receptive to innovations than will lowdogmatics.
- 3. One can expect the relationships in (1) and (2) above to be tempered by the realities of the contexts in which subjects find themselves. Expectations of high correlations may be unrealistic.

# Research Regarding the Relationship Between Open-/ Closed-Mindedness and Attitudes Toward Education

Whereas the theoretical formulation of dogmatism enables one to predict a relationship between it and receptivity to change, the expected relationship between dogmatism and progressive/traditional attitudes toward education is less clear-cut.

To be recalled at this point is the basic notion around which Rokeach formulated his ideas and researched the concept of dogmatism. He posited that dogmatism related to the structure of beliefs (the way they are held) rather than the content of those beliefs. That reasoning suggests that degree of dogmatism would not be correlated with philosophical positions. One then can conceive an individual at the extreme right of the political spectrum and yet being either open- or closed-minded. The relationship between leftism and open-/closed-mindedness should also be similar. In other words, the theoretical position would suggest that dogmatism would be free of political, religious or ideological content. However in the research conducted by Rokeach and his associates, a consistent positive correlation between conservatism and dogmatism was found to exist. Although weak, this relationship was persistent over many studies. This led Rokeach (1960) to conclude that ". . . the chances are somewhat better than even that a closed-minded person will be conservative rather than liberal . . ." (p. 122).

Kerlinger, whose work is the basis of the progressive/ traditional formulation used in this study, has argued that liberalismconservatism in the political spectrum is reflected in progressive/ traditional attitudes toward education. He states "While the educational schism corresponds rather well to the liberal-conservative dimension, its character seems to be somewhat different, and can perhaps best be epitomized by the words progressive and traditional" (Kerlinger, 1958B, p. 111).

Given that there tends to be a weak positive correlation between closed-mindedness and conservatism and given that conservatism is reflected in traditional attitudes toward education, one can hypothesize that a weak positive correlation will exist between dogmatism and traditional attitudes toward education.

It is therefore not surprising that much of the available empirical evidence confirms that expectation. In a recent study of teachers in Connecticut, Dickens (1976) found that among his sample of 268 teachers, traditional attitudes toward education were significantly correlated with closed-mindedness as measured by the Rokeach Dogmatism (Form E) Scale.

Similarly, Clarke (1969) found a significant negative correlation between authoritarianism and progressive attitudes toward education.

In a study cited earlier, McGeown (1979) found that traditionalism, conservatism, and dogmatism were all negatively related to venturesomeness, progressivism, and change proneness. That study which was conducted in Ireland used a large sample (n=1,757) and seems to have been well conceived and executed.

A parade of corroborating studies is probably redundant at this point. However, additional evidence for the generalization that closedmindedness is positively correlated with traditionalism can be found in the work of Cohen (1971), Kremer (1978), Book (1975), Sears (1967), and Slipp (1976). Of those studies, the one conducted by Kremer is particularly instructive. In that study, which involved 125 Israeli female teachers in training, the following relationships were found. Over a period of one year of teacher training the students moved toward less traditionalism and more progressivism. When divided along the dogmatism dimension, open-minded students changed significantly on traditionalism and progressivism whereas there were no significant changes among those who were closed-minded. The implication to be drawn from that conclusion is that it may be simplistic to expect uniform attitudinal changes for students of teacher education in various programs. The personality structure of the individual student which results in differential outcomes should be taken into account in the design of teacher education programs.

Before invoking closure on this section, it is necessary to point out that not all studies have resulted in findings compatible with the consensus of conclusions indicated above.

For example, Soh (1974), in a study of teacher trainees, found that those who were highly-dogmatic held more progressive educational attitudes when compared with those who were low-dogmatic.

Likewise, Bremer (1970) found that student teachers at the University of Northern Colorado changed toward increased agreement with experimentalist classroom practices as a result of student teaching. However, this was not related to beginning dogmatism levels of students.

These findings are to be expected if the underlying theoretical propositions are correct. Since the relationship would ideally only be weak, it is quite conceivable that the five intervening variables

described by Ehrlich and Lee may well account for deviations from what one might normally expect.

## Research Regarding Interrelationships Among All Three Variables

This section of the literature review presents the work of those researchers who have examined the relationships among the three variables; (1) open-/closed-mindedness, (2) attitudes toward education, and (3) receptivity to educational innovation (or closely allied concepts).

Although the studies to be reviewed are not directly related, they are presented because they shed some light on the present effort. Inferences from these studies can only be indirect in that (1) none of these studies has used a student teacher population, (2) the instrumentation in some cases differs from that used in this study, (3) none of the studies used a pre- post-test design, and (4) some of the variables differ in one or more respects from those used in the present study.

Rogers (1977) assessed the relationship of "perceptions of recommended changes in secondary education" to the dogmatism and educational attitudes of 351 secondary school teachers. He found significant main effects for both dogmatism and attitudes toward education. Those who held progressive attitudes had a higher mean perception of change score than did those who were traditional. Both of these findings are in accord with theoretical expectations. However, Rogers found that closed-minded educators had a significantly higher mean perception of change score than did open-minded educators. This is the opposite of what one would normally expect; however, it is not totally unexpected since it has been demonstrated in the review of dogmatism presented earlier in this chapter that reality probably consists of dialetical relationships between man and his consciousness on one hand and the social context and its constraints on the other. Given such a construction of reality, one is not surprised to find that closedminded individuals may have higher mean perceptions of change scores.

To underline this point, Table 2-5 presents data from a study conducted by Jamais and Troldahl (1976) in the field of agriculture. They examined willingness to adopt new farming practices as a function not only of personality (dogmatism) but also of the social system. Social systems were described in terms of the value placed upon innovation. Table 2-5 clearly shows that the mean adoption rate of the high dogmatic group is much higher in social system which place a high value on innovativeness.

Table 2-4.--Mean Adoption Rate by High and Low Dogmatic Groups Living in Social Systems High and Low in "Value for Innovativeness" (Jamais and Troldahl, 1976, pp. 145-146).

	Social System In Which Value for Innovativeness Is	
	Low	High
Low dogmatism group High dogmatism group	7.3 4.9	6.2 6.8
Correlation between dogmatism and adoption rate	40	09

Within the context of the discussion of approaches discussed in Chapter I, that study represents a compromise (or a complementary mixing) of the phenomenological and the structural functionalist approaches. In other words, the subjective understanding and consciousness of the individual does not readily explain the phenomena described by Troldahl and Powell. Only when we view the individual in terms of his embeddedness in the social context do we avoid a simplistic reification which is capable of explanation of only a portion of the puzzle.

In a study conducted among 222 social studies teachers in California, Anctil (1973) sought to determine the relationships among dogmatism, educational philosophy and teachers' acceptance and/or understanding of the new social studies. He concluded that level of dogmatism and philosophical orientation were significantly related to the extent the rationales and strategies of the new social studies were accepted and/or understood.

If one makes the quantum leap (at least tentative) between educational philosophy and attitudes toward education and between acceptance of the new social studies and receptivity to educational innovation, then some parallels with the present study become evident. In fact the findings support the theoretical expectations described in this chapter.

However, it should be noted that besides the obvious differences in variables under study the Anctil study differs from the present one in three important respects. First, the sample consists only of practicing teachers. Second, the study did not attempt to assess the impact of training program variables upon receptivity toward the new

social studies and, finally, the dependent variable studied was acceptance and/or understanding of the rationales and strategies in one discipline, the social studies. The present study sought to assess dispositions toward acceptance of a range of innovations in other aspects of schooling as well as in the area of curriculum.

The last research effort to be examined here is that conducted by McKee (1971) among industrial education teachers in Utah. The three variables investigated in that study were dogmatism, educational philosophy (which he seems to have equated with attitudes toward education since he used the Kerlinger Scale to measure that variable), and willingness to participate in activities presenting improved instructional practices.

The following is an exerpt from the abstract of that study.

The general conclusion of the study is that teachers attitudes particularly those associated with dogmatism and educational philosophy do contribute significantly to the acceptance or rejection of activities presenting improved instructional practices. (p. 4470A)

Once again the conclusions are consistent with expectations.

Taken together, these studies may foreshadow the results to be expected in this study.

The present work is much different in focus when compared with the foregoing studies. Those efforts examined connections among variables in an attempt to ascertain personality correlates of innovativeness (or a similar variable), whereas the purpose of this study is to examine the relationship of several teacher training programs upon <u>changes</u> in those variables. Although there are differences in purpose, the studies described here may be indicative of possible outcomes.

# A Theoretical Perspective--Cognitive Dissonance and Attitude Change During Student Teaching

Placing the theoretical framework after a discussion of the variables to be measured is a departure from orthodoxy which has been taken deliberately. In this case, it was deemed more appropriate to approach the literature in this way since the manner in which the variables are defined in this study differs from the way they have been utilized in some earlier work. It seemed best to delineate those differences at the very beginning to avoid prolonged confusion regarding the purpose of the study.

Since this study is not primarily concerned with testing or validating theoretical formulations of attitude change the following discussion is not an extensive one. The main tenets of one particular theory of attitude change are presented as a framework for the expectations of attitude change during student teaching.

# <u>Cognitive Dissonance--A Theory of</u> <u>Attitude Change</u>

Central to this study is the proposition that attitudes, defined as predispositions to respond in differential ways to objects and ideas, are capable of being changed as a result of exposure to new and differing ideas and practices. The cognitive dissonance theory proposed by Festinger (1957) provides a theoretical basis for examining that particular proposition. According to Festinger, a person experiences a state of tension when two simultaneously held cognitions (values, attitudes, opinions, or increments of knowledge) are inconsistent or contradictory. That state of tension termed "cognitive dissonance" can be reduced by changing one of the cognitions, usually the one which is least powerful and salient. Dissonance theory then is based on the assumption that individuals constantly strive to reduce dissonance among cognitions in an attempt to re-establish harmony.

Festinger (1957) has suggested that there are a number of categories of dissonance-producing situations.

- 1. Dissonance almost always exists after a decision has been made between two or more alternatives.
- 2. Dissonance almost always exists after an attempt has been made, by offering rewards or threatening punishment, to elicit overt behavior that is at variance with private opinion.
- 3. Forced or accidental exposure to new information may create cognitive elements that are dissonant with existing cognition. (pp. 261-262)

(It should be noted that only those aspects of the Festinger

formulation which are applicable to this study are being quoted.)

Festinger has suggested ways in which dissonance can be reduced.

- 1. Post-decision dissonance may be reduced by increasing the attractiveness of the chosen alternative, decreasing the attractiveness of the unchosen alternatives or both.
- 2. If forced compliance has been elicited, the dissonance may be reduced by changing private opinion to bring it into line with the overt behavior. . . .
- 3. If forced compliance fails to be elicited, dissonsance may be reduced by intensifying the original private opinion. . .
- 4. The presence of dissonance leads to seeking new information which will provide cognition consonant with existing cognitive elements. . . .
- 5. When some of the cognitive elements involved in a dissonance are cognitions about one's own behavior, the dissonance can be reduced by changing the behavior, thus directly changing the cognitive element.
- Dissonance introduced by disagreement expressed by other persons may be reduced by changing one's own opinion... (pp. 264-265)

In summary, the cognitive dissonance theory suggests that the degree or extent of attitude change is a function of the intensity of perceived dissonance and the duration of the state of dissonance. Mahan and Lacefield (1977-78) have suggested that: Cog rev is of tha du di su qu i. bι n, 0 g S Given that cognitive dissonance is present and is of "low" or "moderate" intensity, dissonance reduction is very likely. However, if the dissonance level is high, the theory predicts that although dissonance reduction is still quite likely, the possibility of a "boomerang" effect becomes greater; that is, the dissonance may reinforce the preexisting attitude causing little or negative attitude change rather than the "predicted" reduction. (p. 5)

### Cognitive Dissonance and Student Teaching

Within the framework of cognitive dissonance theory, the earlier review of studies dealing with attitude change during student teaching is more meaningful.

In that review, it has been demonstrated that college professors of education as a group tend to be more progressive in their attitudes than are most other populations. Hence, it is not surprising that during on-campus work in education, prospective teachers move in the direction of agreement with those attitudes. Given the superordinatesubordinate relationships of the professor-student relationship, it is quite likely that attitude shifts may be explained in Festinger's terms, i.e., if forced compliance (this does not suggest only physical force but may include subtle inducements) has been elicited, the dissonance may be reduced by changing attitudes to bring them into line with such overt behavior as the writing of an essay, the holding of a stance in a class discussion, and so forth.

During the student teaching phase of teacher preparation, the student works closely with one or more cooperating teachers who, as a group have been shown to be more traditional in their attitudes than are college professors as a group. Cognitive dissonance theory would predict that if student teacher and cooperating teacher attitudes are incongruous, we can expect change in student attitudes toward the

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positions held by their cooperating teachers. It may, of course, be argued that supervising teachers' attitudes would change toward those held by the student teacher. This possibility has been totally ignored by educational researchers. However, it seems that because the cooperating teacher is the superordinate in the relationship and because his or her attitudes have become fixed over a period of time whereas the student teacher may still be in the process of formulating a coherent philosophy and concomitant set of attitudes, one would expect the attitudes of student teachers to change more than those of the supervising teacher.

Given this formulation, the studies of attitude change of student teachers become more comprehensible and meaningful.

## <u>Cognitive Dissonance and Cross-Cultural</u> <u>Student Teaching</u>

If what has been suggested regarding the reasons for attitude change of student teachers is a valid explanation, then cross-cultural student teaching will probably result in an even more predictable outcome. In most cases, home-based student teachers complete their practicum in school systems with which they are already familiar to a very great extent. In the case of the home-based programs studied in this work, this is particularly so because of the homogeneity of the system. That homogeneity is the result of two main factors: (1) the vast majority of teachers working in the system are products of that school system and have been trained in the same teacher training institution, and (2) the basic curriculum (including not only sequences but also prescribed text books and common examinations at school leaving) of the school system is outlined by the provincial government department of education.

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However, in the case of an overseas cross-cultural student teaching program incongruence with previously held attitudes can be expected to be even more exaggerated.

Detailed information regarding the programs under study will be presented in Chapter III. The point to be made here is that the context in which the cross-cultural student teaching program operates will present many instances of information, ideas and practices at variance with those previously held or favored by the student teacher. As Herman and Schild (1960) have put it, "The 'cognitive maps' which he (the student) has learned in his home culture are no more veridical" (p. 231). In those instances it seems reasonable to expect an even greater degree of attitude change than in the home-based programs.

## Summary

This chapter has presented analyses of concepts associated with the major variables used in this study. That was followed by an examination of previous research dealing with those variables individually and as they interact with each other. Finally, the theory of cognitive dissonance was presented as an explanation of the many research findings regarding student teacher attitude changes and as a predictor of what might be expected in this study.

In Chapter III an account of the procedures used to conduct the study will be presented.

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# CHAPTER III

### RESEARCH DESIGN, INSTRUMENTATION, AND PROCEDURES

### Introduction

It was the general purpose of this study to investigate the differential relationships of three types of student teaching programs to changes in the attitudes of the students who enroll in those programs. Specifically the study focused on three types of student teaching practica; an overseas thirteen week practicum, a home-based thirteen week practicum, and a third program which combined on-campus course work and off-campus student teaching. The dependent variables in this study were the dogmatism, attitudes toward education, and receptivity to educational innovation of the students involved.

In addition the study explored relationships among a number of biographic, demographic, and programmatic variables and changes in student teacher dogmatism, attitudes toward education, and receptivity to educational innovation.

The remainder of this chapter is devoted to a discussion of the variables involved, the samples, the instrumentation, the research design, and data analyses utilized in the study.

#### Research Design

As with most studies conducted in natural settings, it was impossible to utilize a truly experimental design in this work. It

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was necessary throughout this study to work with pre-formed groupings of students in three distinct programs; hence, random assignment to groups was impossible as was random assignment of treatments. Given the <u>ex post facto</u> nature of the research, the design adopted was a modified version of what Campbell and Stanley (1963) refer to as "The Nonequivalent Control Group Design." They describe this design as research involving:

. . . an experimental group and a control group both given a pretest and a posttest, but in which the control group and the experimental group do not have pre-experimental sampling equivalence. Rather the groups constitute naturally assembled collectives such as classrooms, as similar as availability permits but yet not so similar that one can dispense with the pre test. (p. 47)

The design is represented in the following manner.

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(0) represents the pre-test, 0 the post-test, and X represents the experimental treatment. Campbell and Stanley describe two variations on this design, one in which the researcher decides which group will receive the treatment and the second in which the researcher does not have that choice because the subjects have sought out the treatment(s). This distinction is important in that the threats to validity are different in each case. The second type accurately reflects the conditions obtaining throughout this study. Specific threats to the validity of this approach and how those threats were handled will be discussed later in this chapter.

It should be noted that although the diagrammatic representation presented earlier has only two groups, the experimental and the control groups, the present study utilized three groups each of which represents a different condition. Therefore the comparisons made in this study are not, strictly speaking, between treatment and control groups, but rather between and among different conditions.

## The Three Conditions--Student Teaching Practica

This section describes the three conditions under study; the homebased student teaching program, the overseas student teaching program, and the mixed (on-campus course work and distributed school practice) program. Each of these will be described in turn with distinguishing characteristics noted where appropriate.

## The Home-Based Student Teaching Program

One of the components of teacher education programs at Memorial University of Newfoundland is a thirteen-week student teaching experience. The reader should note that this program is an optional one available to all students. Students may complete the requirements for the Baccalaureate in Education by enrolling in another student teaching program to be described later in this report.

Entry into this thirteen-week optional student teaching program is open to those students who have completed most of the required courses in pedagogy. For example, student teachers at the secondary school level must have completed methods courses in their major discipline and courses in three of the following four areas: (1) educational psychology, (2) educational administration, (3) curriculum and instruction, and (4) foundations of education. Normally students at the secondary school level are in their fourth or fifth year of a five year program leading to conjoint degrees in either arts, science, or physical education and education. At the elementary level, students are usually

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in the final year of a four year B.A. (Ed.) program. The student teaching program is weighted as five semester credits toward the minimum of twelve (secondary programs) and twenty (elementary programs) education credits needed to graduate.

The program consists of an orientation period of approximately one week followed by twelve weeks of work in a public school in St. Johns, Newfoundland. During the twelve-week period, students spend four days per week in the schools and the fifth day is devoted to seminars with members of the faculty of education, provincial government officials, school district personnel and so forth. In addition to those seminars, field trips to such agencies as teacher organization headquarters, various post-secondary institutions, and rural schools are conducted.

During the first half of the term emphasis is placed upon careful observation of school and classroom procedures, curricular decision-making, instructional practices and so on. In addition, the student begins teaching and gradually assumes responsibility until at about half-term he/she will normally be taking responsibility for the activities of a class (or classes) for about 50 percent of the time spent in the school.

Supervision of the work of the student teacher is shared jointly by a member of the Division of Student Teaching of Memorial University and one or more public school teachers in the school to which the student has been assigned. The faculty member closely monitors the development of the prospective teacher and observes the student's teaching on at least one occasion per week after he/she has begun teaching. Those observations are followed by conferences between the

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faculty member and the student teacher. The cooperating teacher attends those sessions whenever possible.

Classroom teaching is videotaped twice during the term, once early on in the student's experience and once late in the term. These are viewed by the supervising teacher and the student teacher and are used as instructional and evaluative devices.

Throughout the term the student teacher is required to keep a log of his experiences focusing less on description of events than upon analysis of and reflection upon critical events of the term.

Responsibility for the summative evaluation of the student teacher is jointly shared between the school personnel and the faculty advisor. Both of those individuals complete a rating form and final ratings are averaged in those cases where large discrepancies do not exist. When big differences do occur, a third independent individual is asked to render a judgment after observing the student at work. That individual is usually the director or assistant director of the Division of Student Teaching or the principal of the school to which the student has been assigned.

### The Overseas Student Teaching Program

The overseas student teaching program is an extension of the home-based program. In all respects it is similar to the home-based program except where the overseas circumstances dictate changes.

In order to gain acceptance to the overseas program, students must make application for admission to the student teaching program <u>per se</u> and if admitted are placed in a school of their choice in Harlow, England if they indicate a preference for such a placement. The admission

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requirements in the overseas program are identical to those of the home-based program.

Students accepted for the overseas program complete their field experience in public schools operated by the West Essex Area Education Office. The great majority of students are assigned to schools in Harlow, a town of approximately 80,000 population, twenty miles north of London in Essex County, England.

The overseas program differs from the home-based program in a number of ways. First, the orientation period tends to be longer and more intensive. This is necessary given that students are entering both an alien culture and a school system which is different in some respects from those with which they are familiar. Those differences in school systems constitute the major substantive differences in the two programs.

No systematic attempts have been made to delineate the major contrasts between the Newfoundland and the British school systems. Kelleher (1973) attempted to compare curricular decision-making in the two systems. The major difference between the two was seen as the greater degree of centralization in Newfoundland. The major forum of curricular decision-making in England was considered to be the school. This decentralization resulted in greater teacher autonomy with regard to stipulation of objectives, selection of materials, establishment of varied patterns of pupil organization, and evaluation of pupil progress. By contrast, in the Newfoundland system teacher autonomy was perceived by teachers as being circumscribed by provincially established courses of study, prescribed text-books, and the existence of common school leaving examinations at the end of secondary school.

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The differences are not only apparent in methods of organizational control and administration. The progressive practices of the British primary school, for example, have been lauded worldwide as examplars of child-centered methodology. The freedom of movement of pupils, the absence of the lock-step graded system, the emphasis on individualization, the absence of standard texts, and other such practices are at variance with what one ordinarily experiences in Newfoundland primary and elementary schools. Cuff (1973) in a report of the activities of the first group of Newfoundland student teachers in Harlow characterized primary schools as having the following common features: "... they permitted pupils to move around freely. Children worked in small groups, there were no formal class lessons and generally students were doing things rather than listening." The junior schools (pupils between seven and eleven years of age) were characterized by some form of "integrated program" where there were no clear distinctions among subject areas (p. 13).

In a report of a student teaching program conducted by the University of Florida in Lancashire, England, Martinello (1973) made similar observations. Her report deals at some length with describing two characteristics of the schools observed namely "informal teaching" and "the integrated day." She defined those terms in this way:

Informal teaching refers to the teachers structuring of the class environment and the children's tasks in such ways as to promote the simultaneous occurrence of different activities undertaken by individuals and groups. The good informal teacher holds different standards of achievement for different children. He works from children's interests rather than exclusively from textbook lessons. He acts as coordinator of the multiple strands of activity engaged in by the children which he seeks to stimulate, connect and extend. (p. 2)

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This description is remarkably similar to the conception of progressive teaching described earlier in Chapter II.

The term "integrated day" seems to be used to describe two types of classroom operations.

Integration of studies sometimes meant that a child's interests (whether self-determined or teacher-stimulated) were utilized as the source of thematic material for reading, writing, number work and creative expression.

The second category of integrated day practices refers to the timing and differentiation of activities in language, maths and creative expression. When children were engaged in varied activities at different times and, to some extent by self-determination of when activities were to be undertaken and how much to accomplish at one sitting, the integrated day was considered to be in operation. (Martinello, 1973, p. 3)

Differences between secondary schools in the British and Newfoundland systems are not as pronounced as those at the primary and elementary level. However, the secondary comprehensive schools of Harlow tend to have larger pupil enrollments, have a greater breadth of programs available to pupils, accept a greater age range (11-18 years) of pupils, and have greater flexibility in curricular decision-making when compared to secondary schools in Newfoundland. However, the wide differences in teaching practices at the elementary level do not seem to exist at the secondary level. Teaching approaches tend to be very similar.

Some studies have been conducted in an attempt to make crosscultural comparisons of teacher attitudes. After a large survey of a sample of 2,482 teacher education students in the United States and 2,175 student teachers from Britain, Dickson (1969) reported that the United States sample was more learning-centered whereas the British sample was more child-centered and permissive. In this writer's opinion, that study is suggestive of the differences which exist between English and Newfoundland teachers particularly if the sample considered were from primary and elementary schools. No research related to this hypothesis has been undertaken.

In other respects such as supervision, evaluation, and extent of teaching and observation, the overseas program is similar to the home-based program. The basic differences are those related to the different school contexts in which the programs operate.

#### The Mixed Program (Course-Work/Field-Work)

The minimal practice teaching requirements of teacher preparation programs at Memorial University is a course which entails weekly half-day visits to public schools during one academic semester (thirteen weeks) followed by a two-week block which occurs only in the spring of each year between the winter and spring semesters.

During the term in which the student is enrolled in this course, he is normally enrolled in four other courses either in education or in other academic departments throughout the university.

Requirements for entry into this program are similar to those for the other two programs described earlier. In fact the prerequisite courses are identical. The program is supervised by the same personnel (members of the Division of Student Teaching) as the student-teacher programs. Likewise, evaluation is shared with public school personnel.

The half-day sessions in public schools are supplemented by oncampus seminars and combined micro-teaching and peer teaching. Videotaping of micro-teaching lessons is used extensively to provide feedback to students.

ind j in tl from have pre-For Sept unt tha tea hor te 19 dı te It should be noted that in the design of the study, pre-testing and post-testing within this program was done simultaneously with that in the other two programs. This in effect eliminated the two-week block from consideration in this research. To have included that block would have meant eliminating two controls: (1) the control of simultaneous pre- and post-testing, and (2) the control of length of treatment period. For example, students who completed the half-day sessions during the September-December semester would not have completed the two-week block until April or May of the following year because, as indicated earlier, that block occurs only once per year.

# The Populations and Sample Selection

The treatment conditions already described are three types of teacher preparation programs; an overseas student teaching program, a home-based program, and a combined field-work, course-work program.

The subjects studied in the overseas and the home-based student teaching programs were total populations of those programs during the 1977-78 academic year. The number of students in the overseas program during that year was thirty-six and the number in the home-based student teaching program was twenty-eight.

Subjects in the mixed program consisted of a random sample of fifty-five students of a total population of approximately 400 who enrolled in that program during the 1977-78 academic year.

Descriptive data regarding the three samples will be presented in Chapter IV. Those data will focus on biographic, demographic, and programmatic similarities and differences among the three groups as well as on pre-test score comparisons.
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It will be recalled that the two student teaching programs are optional programs for prospective teachers. The mixed program is the compulsory minimum student teaching requirement. In this respect, the three groups may be considered to differ. It was for this reason that a pre-test was undertaken. One other attempt was made to control for the "volunteering" factor. It was hoped at the outset of this study, to isolate a group of students who initially applied for and were accepted into (or were eligible for acceptance into) either the overseas program or the home-based student teaching program but who for reasons extraneous to the programs (time constraints, financial problems, home commitments, and so forth), finally opted out of those programs and enrolled in the minimum program (the mixed program). Unfortunately only six such students were identified, a number too small to use as a control group.

#### The Instruments

The following sections discuss in some detail the instruments used to operationalize the dependent variables; open-/closed-mindedness, progressive/traditional attitudes toward education, and receptivity to educational innovation. In addition, a description of an instrument to gather biographic data will be presented.

# <u>Open-/Closed-Mindedness (The</u> <u>Dogmatism Scale</u>)

In the analysis of the concept of 'open-/closed-mindedness' in Chapter II, it was indicated that much of the empirical work related to that construct had been conducted by Milton Rokeach. In fact, he developed several versions of the Dogmatism Scale as an empirical

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measure of the extent of the openness or closedness of individual's belief systems.

Items for the scale were initially formulated by Rokeach on the basis of conversations with and observation of individuals who were considered to be dogmatic.

Validation of item selection has proceded along three lines: "Validation by the method of known groups, . . . validation against other standardized scales purporting to measure the same or similar variables, and . . . theoretical validation by testing hypotheses stemming from a set of theoretical conditions" (Rokeach, 1960, p. 287).

Rokeach and his associates reported a number of experiments comparing high and low scorers on the Dogmatism Scale on a variety of laboratory tests. Those experiments confirmed theoretical expectations that closed-minded individuals were less capable of (1) relinquishing old systems, (2) entertaining and enjoying new systems, and (3) actively synthesizing new materials into an integrated whole (Rokeach, 1956, p. 22).

As pointed out in Chapter II, a number of studies have been conducted comparing the Dogmatism Scale with the California F Scale developed by Adorno and associates. These have confirmed the hypothesis that the Dogmatism Scale measures general authoritarianism rather than only right authoritarianism as does the F Scale.

Studies utilizing the "known-groups" method have provided additional evidence of the validity of the Dogmatism Scale. For example, Rokeach reports higher scores for communists and religious non-believers as well as for authoritarian groups right of center. Catholics are given as an example of such a group. its tha con ing for rel Sta Fo CO ci in 1 t

In a review of literature related to the dogmatism construct and its attendant measurement device, Robinson and Shaver (1969) concluded that the Rokeach Scale adequately served the purpose for which it was constructed. In fact, there seems to have been little serious questioning of the validity of that scale.

Rokeach has reported reliability coefficients for Form E of .81 for English college students, .78 for a sample of English workers and reliabilities varying from .68 to .93 for samples drawn from Michigan State and Ohio State Universities.

Moore (1970) summarized a number of studies which utilized Form E of the Dogmatism Scale. He reported split-half reliability coefficients varying from .64 to .90 and test-retest reliability coefficients ranging from .50 (with a four year lapse) to .88 (for a one month interval). It should be noted that sample sizes ranged from 30 to 1,239.

The instrument used in this study is a short-form of the Dogmatism (Form E) scale. That scale developed by Troldahl and Powell (1965) contains the best twenty items of the original forty in Form E. Troldahl and Powell report a split-half reliability coefficient of .79 for the short form. They further report a correlation of .94 between this short form and the forty item scale. The short form was used because it was to be combined with two other scales and the total scale would have resulted in the usual problems associated with overly long questionnaires. The reliability coefficient obtained during this study was .80.

The Dogmatism Scale is a Likert-type instrument requiring respondents to reply to one of six responses; agree very strongly, agree

strongly, agree, disagree, disagree strongly, and disagree very strongly. There is no provision for a non-commital "don't know" response. Scoring is accomplished by summing responses from 1 (for disagree very strongly) to 7 for agree very strongly. High scores are indicative of a high level of dogmatism or closed-mindedness.

# Progressive/Traditional Attitudes Toward Education (Education Scale VII)

The instrument used in this study to measure attitudes toward education is Kerlinger's Education Scale VII. That scale is the result of approximately a decade of efforts by Kerlinger and Kaya (1959) to devise a measure of tendencies of individuals toward attitudes which may be classified as progressive or traditional. Using Q methodology they initially isolated the progressivism and traditionalism dimensions which were then translated into forty Likert-type items twenty of which constituted the progressivism domain and twenty the traditionalism domain. Traditional referents are discipline, subject matter and moral standards. Progressivism referents are child needs, individual differences, and social learning.

That scale which has subsequently undergone a number of revisions was validated by the known groups method. The scale was administered to samples of education students, education professors, liberal arts professors, and laymen. The various samples scored as hypothesized along the two dimensions. Education students and professors were more progressive in their attitudes than were liberal arts professors and laymen.

The Education Scale VII, a descendant of those earlier efforts is a 30-item Likert-type instrument with fifteen items in each of the two repo alis tie wer tha ite of on ed al fa tł hi pı n ς

two basic categories. Reliability coefficents for three samples reported by Kerlinger and Kaya ranged from .70 to .81 for the traditionalism scale and from .77 to .81 for the progressivism scale. Reliabilities for the progressivism and traditionalism subscales in this study were .75 and .71 respectively.

The method of response to the thirty items is identical with that used for the Dogmatism Scale and as with the Dogmatism Scale each item has a range of possible values from 1 to 7.

Two methods of scoring have been used in past administrations of the scale. By summing the fifteen items in each of the two subscales, one arrives at two scores, one measuring the degree of progressivism of educational attitudes and the second measuring the degree of traditionalism of education attitudes. Given that Kerlinger has determined by factor analysis that these dimensions are dualistic rather than bipolar then one can treat these as two separate scales. However, in the early history of the scales one overall score was obtained by subtracting the progressivism score from the traditionalism score. A high positive or negative score suggested that the subject held consistent attitudes.

Some criticism has been levelled at the logic of subtracting one subscale score from another if attitudes are in fact dualistic (Oliver and Butcher, 1962, pp. 56-59).

This issue has not yet been settled definitively, however, the subtraction method does seem to be logically faulty. Throughout this report, separate scores will be presented for the progressivism and traditionalism scales.

# The Receptivity to Educational Innovation Measure

To meet the needs of this study, the investigator developed a closed-form Likert-type, summated rating scale to assess the degree of receptivity of student teachers to educational innovation. Subjects were asked to respond on an agree-disagree continuum (identical to the one used for the Dogmatism Scale) to twenty-six items each dealing with a specific innovation. The items were worded in a negative manner. For example, one of the items states, "I feel the new flexible type of school building encourages disorganization and confusion." This method of wording was utilized in order to interject a sense of realism which it was hoped would result in more deliberate and thoughtful responses than if the items were worded in a neutral or positive manner. Since a Likert-type scale was used, this resulted in a situation where a high score represented low receptivity and vice versa. In order to avoid the confusion that this might have created, the scores reported herein have been inverted and a high score does, in fact, represent high receptivity.

This particular approach to measuring receptivity to educational innovation is one adopted by Ramer (1968) in his attempt to assess the attitudes of chief school administrators. In fact, twenty-two of the original pool of twenty-six items were developed by Ramer.

One of the problems inherent in this particular method of determining receptivity relates to the manner in which the term innovation is defined.

It will be recalled from Chapter II that an innovation is defined as a new idea or practice which at a particular time in a specific area has not been accepted on such a wide scale as to be considered common

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ot th to e e practice. Given such a definition, the scale used to assess receptivity in Newfoundland in 1977 may be totally inappropriate in New York in 1977 or in Newfoundland in 1982. Quite simply, an innovation in Newfoundland may be a common practice in New York at the same point in time and that particular innovation may have become accepted method five years later in Newfoundland. Hence, scales of this type can, at best, only have situational and temporary validity.

In addition to the twenty-two items from the Ramer pool, eight others were developed by the researcher on the basis of familiarity with the Newfoundland school system. The thirty items were then submitted to a panel of six judges comprising two teachers (one elementary and one secondary), two public school administrators, and two college of education professors. The judges were asked to indicate (a) whether each item could be considered to be an innovation within the context of the Newfoundland school system and (b) whether changes in wording of items might be necessary. Of the thirty items, four were dropped because they were rejected by four or more of the six judges. Four other items on which there was evenly divided opinion were retained until the degree of internal consistency of the scale had been determined.

Time did not permit a statistical analysis of a pilot run of the scale before the first administration of the pre-test in September 1977. As a result all twenty-six items were included for both the pretesting and post-testing and analysis of the scale was completed at a later date.

That analysis indicated an alpha level of .80 as a measure of the internal consistency of the scale. After the four dubious items

had that and the duc rep pra pri an Сц e р F had been dropped the alpha coefficient remained at .79. It was decided that since the four items were questioned by three of the six judges and since they did not add considerably to the consistency of the scale, they would be dropped in subsequent analyses.

The remaining twenty-two items upon which analyses were conducted can be categorized by type in the following manner. Seven items represent innovations in content, eight in the area of instructional practices and teaching methodology, four represent changes in personnel practices and policies, and three items refer to changes in school plant and equipment.

Determining the validity of such a scale as this one is difficult at best. Face validity can, of course, be assessed by a careful examination of the items. In addition, the distribution of scores provides a rough indication of the construct validity of the instrument. For example, one might reasonably expect a distribution approximating the normal curve. This would be in keeping with Rogers and Shoemaker's findings regarding the rates at which individuals adopt innovations.

Figure 3-1 is a graphic representation of the distribution of receptivity scores attained during the present study.

The mean score was 70.34 and the standard deviation 13.56. The skewness of the distribution was -.270 which indicates minimal skewness to the left. In addition, the distribution is slightly less peaked in the middle than the normal curve (Kurtosis = -.247). However, the histogram in Figure 3-1 indicates that the distribution of receptivity scores does not depart radically from the normal curve.

One test of concurrent validity has been run. However, it must be considered somewhat suspect since it was conducted by the researcher

Frequencies



Figure 3-1.--Distribution of post-test receptivity scores.

using subjective criteria. Twenty of the respondents to the receptivity scale were well known to the author. He had observed their classroom teaching on several occasions, had observed micro-teaching lessons, and conducted a number of individual conferences with each student. In addition all students had been observed in seminar situations. Those twenty subjects were rank ordered by the author along a continuum from least receptive to most receptive. That rank ordering was compared with scores on the receptivity scale by computing a Spearman Rank-Order Correlation coefficient. That procedure resulted in a Rho of .60, significant beyond .01.

Once again caution is in order in interpreting this finding. A more valid method would have been for the researcher to have developed criteria for judging receptivity and then had others rate individuals known to them. Time constraints prior to pre-test administration did not permit such an approach; as a result the foregoing is presented.

# Biographic Data Questionnaire

This section of the combined questionnaire contained only three items. The first asked respondents to indicate the extent of their classroom experience since completing high school. The second sought information regarding the size of the respondents' hometowns (defined in terms of where they had attended elementary school). The third question, an open-ended one, asked students to state the occupation of their father. Finally, students were asked to state their Memorial University student identification number.

Additional information regarding grade averages, practicum grade, sex, and area of academic major was ascertained from student academic

records procured from the office of the Registrar at Memorial University. That information was forthcoming after guarantees had been given that confidentiality would be maintained.

## Data Collection

The questionnaire (see Appendix E) combining the three scales and biographic data section was administered to one half of the students in both the home-based and overseas student teaching program during the first week of each semester of the 1977-78 academic year. In addition, the questionnaire was administered to one half of the sample of students in the mixed program during that week. Those who would receive the pre-test was determined by using a table of random numbers. All students in the overseas and home-based student teaching programs as well as the total sample of students from the mixed program completed the posttesting during the final week of the semester. The time lapse between pre- and post-testing was twelve weeks.

The instrument was group administered by either the reseacher or a faculty member of the Division of Student Teaching of Memorial University of Newfoundland. Students in each of the three programs were administered the questionnaire separately. In several instances, logistical problems such as absences from testing sessions, and the inadvisibility of having students complete the questionnaire concurrently with other on-going regular class activities necessitated that students be given the questionnaire to be returned to a letter-drop on campus at a later date.

Instructions on page one of the questionnaire were read to each group and forthcoming questions were answered. The specific purpose

or wer abo th tw i (1 qı t or design of the study was not divulged to the research subjects. They were told only that the study was designed to ascertain their ideas about a number of sociological and educational issues.

A pilot administration of the scale had earlier indicated that the average length of time required to complete the questionnaire was twenty-five minutes. In order to provide sufficient time for instructions, questions, and completion of the questionnaire, a class period (fifty minutes) was allocated. This period of time proved to be adequate.

Permission to conduct this study had earlier been granted by the Director of the Division of Student Teaching.

#### Threats to Internal and External Validity

As indicated earlier, the approach adopted in this study has been labelled "The Nonequivalent Control Group Design." As with any design there are threats to both the internal and external validity. Campbell and Stanley (1963) describe internal validity as ". . . the basic minimum without which any experiment is uninterpretable. Did in fact the experimental treatments make a difference in this specific experimental instance?" (p. 5).

External validity relates to the extent of generalizibility of the study. "To what populations, settings, treatment variables, and measurement variables can this effect be generalized?" (p. 5).

Campbell and Stanley note that confidence in this design is greatly enhanced if the experimental and control groups are similar to each other in their recruitment and if the pre-tests confirm this similarity. Given that the subjects of this study were self-selected in terms of opting for a particular program, the pre-test was included to of th fi si fc to ascertain initial differences. Data from the pre-tests plus analysis of biographic data will be presented in Chapter IV. Those data suggest that the groups were quite similar. Given this information some confidence can be placed in the use of this particular design.

Nevertheless there are specific limitations which must be considered in the interpretation of findings from such a study. The following factors represent the major threats to the validity to this study.

- 1. Selection bias--Since the students in this study have opted for one of the three programs and although the pre-test did not turn up radical differences among the groups, there is still the possibility that the selection factor may interact with other factors such as maturation of the subjects to produce effects which may erroneously be attributed to condition effects. It was stated earlier that in the initial conception of the study provision was made for a control for this factor. That entailed getting a control group of students who had applied for either the home-based or the overseas program but who for reasons other than programmatic ones, opted to do the shorter practicum and hence the mixed program. The attempt to identify subjects for such a control group was unsuccessful. Only six students in this category completed the questionnaires, a number too small to use in the statistical analyses.
- 2. Interaction of testing and the treatment--One of the major threats to the validity of studies such as this one arises from the possibility that the pre-test will sensitize the subjects to the later treatment and result in an effect that would not

have occurred had the pre-test not been administered. In order to account for this possibility, only one-half of the subjects in each of the three groups were administered the pre-tests. All subjects completed the post-tests. By taking this approach, it was possible to ascertain whether such an interaction did indeed occur.

Before concluding this section, it should be stressed that Campbell and Stanley refer to this design as quasi-experimental in order to distinguish it from truly experimental ones. As a result, it is impossible to attribute causality to the treatment conditions even if relationships are found to exist between the independent and dependent variables. At best one can only conclude that there is a correlation between the two.

#### Data Analyses

Data were coded and punched on batch cards for use with the Statistical Package for the Social Sciences.

Preliminary analyses were performed on the data to determine the characteristics of the total sample and of the three subgroups. Comparisons of the pre-test scores and biographic data were conducted using Chi-square tests of independence (for non-interval data) and multivariate analysis of variance tests (with interval data). The results of those comparisons are presented in Chapter IV.

Testing of the major hypotheses of this study was conducted by using multivariate analysis of variance and several attendant procedures. Each of those will be described in detail as the results of analyses are presented in Chapter IV. Significance levels for all analyses were set at .05.

Chapter IV consists of a presentation of the analyses of data obtained in this study.

## CHAPTER IV

## FINDINGS OF THE STUDY

# Introduction

This chapter is subdivided into six sections. The first deals with an analysis of demographic and biographic data in a presentation of findings regarding similarities and differences among the three groups of research subjects. The second presents findings regarding the intercorrelations among the four dependent variables. Sections three through five each deal with findings regarding one of the three hypotheses presented in Chapter III. Those sections will include both a presentation and a discussion of the findings. More general conclusions to be reached and implications to be drawn will be presented in Chapter V. The last section of this chapter will include findings which do not neatly fit into either of the other sections.

## Comparison of Practicum Groups on Biographic Data

In this section, data regarding various biographic and demographic characteristics of the subjects are presented. Variables discussed are sex, size of hometown, father's occupation, teaching level, major area of study, teaching experience, and academic grade averages.

The purpose of this section is to reveal the points of comparison and contrast among the students in the three field experience programs.

Table 4-1 reveals the sex of the subjects in the three groups and the total sample. Females accounted for 61 percent of the total and males 39 percent. The ratio of males to females varies slightly from that reported in The Standard Education Almanac (Chandler, 1980). During 1978-79, 52 percent of all teachers in Newfoundland were male.

Table 4-1.--Sex of Sample by Type of Practicum.

Turne of Due success		Tatal	
lype of Program	Male	Female	ισται
Home-based program	13	15	28
Cross-cultural program	11	25	36
Combined course-/field-work	22	33	55
Total sample	46	73	119

A Chi-square test for independence suggests that significant differences did not exist among the three groups on the sex variable  $(\chi^2 = 1.75, p = .42)$ .

# Size of Hometown

Sex

Information regarding the size of the hometowns of subjects (hometown was defined as the town in which the subject attended elementary school) was gathered in an attempt to ascertain whether the three programs had similar rural/urban mixes. Since, it has been shown that cosmopolitan individuals tend to be more receptive to innovation, it was deemed necessary to ascertain whether any of the programs drew students predominantly from the small fishing villages of Newfoundland

or predominantly from the few urban centers which exist there. Although urbanism and cosmopolitanism should not be equated, given the homogeneous nature of many small Newfoundland communities, it was a factor for which accounting was considered necessary.

	Size of Hometown					
Type of Program	Below 250	250- 1,000	1,000- 10,000	10,000- 50,000	0ver 50,000	IOTAI
Home-based program	2	5	8	5	8	28
Cross-cultural program	٦	4	11	7	12	35
Combined course-/field- work	7	11	16	11	10	55
Total sample	10	20	35	23	30	118

Table 4-2.--Size of Hometown of Sample by Type of Practicum.

 $\chi^2$  = 5.91, p = .66

As Table 4-2 reveals, a Chi-square test resulted in a significance level of .66 indicating that any differences among the groups with regard to size of hometown was quite within the realm of chance.

### Father's Occupations

Table 4-3 presents data regarding the occupations of the fathers of the research subjects. This was taken as a rough indicator of socioeconomic level. Each subject was asked to list his/her father's occupation and those were subsequently grouped into four categories; professional, technical/managerial, skilled, and unskilled.

The Chi-square test of fathers' occupations by program produced a significance level of .56. Even a cursory examination of the data in

Fathers' Occupations					
Professional	Technical/ Managerial	Skilled	Unskilled	Iotal	
4	8	12	3	27	
4	8	14	5	31	
2	18	20	11	51	
10	34	46	19	109	
	Professional 4 4 2 10	Pathers Occu Professional Managerial 4 8 4 8 2 18 10 34	Factors OccupationsTechnical/ Managerial Skilled4812481421820103446	Factors OccupationsTechnical/ Managerial Skilled Unskilled4812348145218201110344619	

Table 4-3.--Fathers' Occupations of Sample by Type of Practicum.

 $\chi^2$  = 4.88, p = .56

Table 4-3 indicates that the groups are not significantly different on this variable.

## Teaching Level

Students involved in this study were all training to be teachers at either the elementary or secondary school level. Table 4-4 presents information regarding the number of students in these levels in each of the three programs.

In Chapter II, evidence was presented that elementary school teachers tended to be both less dogmatic and more progressive than secondary teachers. Had any one of the three samples contained a disproportionate number of students from one level, it would have been difficult to interpret the findings regarding scores on those two scales. However, as Table 4-4 indicates, the Chi-square result was nonsignificant.

<b>T</b> 6 <b>D</b>	Teachin	T. + . ]	
lype of Program	Secondary	Elementary	lotai
Home-based program	17	11	28
Cross-cultural program	20	16	36
Combined course-/field-work	25	30	55
Total sample	62	57	119

Table 4-4.--Teaching Level of Subjects by Type of Practicum.

 $\chi^2$  = 1.98, p = .37

## Major Subject Area

There is little evidence to suggest that the choice of academic discipline of an individual is related to progressivism, traditionalism, or receptivity. However, as suggested in Chapter II, there is some evidence, albeit somewhat contradictory, regarding the relationship between area of study and level of dogmatism. The Chi-square analysis in Table 4-5 was undertaken to ascertain whether the three groups differed significantly in that respect. As indicated, the groups did not differ on this variable.

#### Previous Classroom Experience

Table 4-6 presents information regarding the amount of teaching experience (defined as public school classroom experience including observation since completion of secondary school) of the sample prior to enrolling in the various programs.

It was the original intention to classify the amount of previous classroom experience into four categories; no experience, 1-20 days,

Type of Program				Major Area	of Study			
	English	Math	Physical Sciences	Physical Education	Social Sciences	Second Languages	Psychology	Total
Home-based program	ω	2	4	0	8	-	L C	00
Cross-cultural program	14	2	2	2	9	• ~	) <	
Combined course-/field-work	17	9	2	4	2	) ~	~ t	5
Total sample	39	10	11	9	35	ט נ	ۍ د <u>ا</u>	011
2 = 14.31, p = .28								

Table 4-5.--Major Subject Area of Subjects by Type of Practicum.

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<b>T</b>	Level			
lype of Program	None	1-20 Days	More Than 20 Days	Total
Home-based program	22	6	0	28
Cross-cultural program	10	21	5	36
Combined course-/field-work	36	13	6	55
Total sample	68	40	11	119

Table 4-6.--Amount of Previous Experience by Type of Practicum.

 $\chi^2 = 21.36$  p < .001

21-90 days, and more than 190 days. However, the data obtained from the administration of the questionnaire indicated that such a categorization resulted in a Chi-square contingency table with slightly more than 20% of the cells containing fewer than five cases. In order to obviate the obvious difficulties associated with the use of a Chi-square test for independence in such circumstances, two categories were collapsed. The resultant three categories; no experience, 1-20 days, and more than 20 days, were utilized in this analysis and in subsequent analyses to be presented in this chapter.

This was the only biographic variable on which the three groups differed at a significant level. The Chi-square result was significant

beyond the .001 level. An examination of Table 4-6 would suggest that students in the home-based thirteen-week practicum have less prior experience than students in the other two programs. In addition, a high percentage of the students in the overseas program (58%) already had between 1 and 20 days of experience before enrolling in that particular program. Percentages of students in the other two programs with 1-20 days of experience were 24 (mixed program) and 21 (home-based program).

#### Academic Grade Averages

An analysis of variance was performed to ascertain whether subjects in the three programs differed with regard to their academic grade averages. Academic grades were those numerical grades achieved by students on all courses completed at Memorial University of Newfoundland prior to enrolling in the programs under study. The univariate F-test resulted in a non-significant probability level of .26. The mean grades for the three groups were 67.5 for cross-cultural student teachers, 65.7 for the mixed program, and 66.4 for the homebased student teachers. The overall mean grade for the total sample was 66.4

# <u>Summary and Discussion of Demographic</u> <u>Differences Among Students in</u> <u>the Three Programs</u>

The foregoing data and statistics have been presented for two reasons: first, to provide a picture of the samples and populations under study and second, to indicate where the samples differed on certain background characteristics. As was noted earlier, of those variables measured the only one on which the samples were initially

significantly different was the amount of previous classroom experience. The potential effect of this initial difference was monitored and taken into account in subsequent analyses of pre- and post-test data.

In concluding this section, it is probably worthwhile to highlight the fact that the results of the foregoing Chi-square and analysis of variance tests indicate that the clients served by any one program do not substantively differ from those in the other two. No one of the programs seems biased in favor of any one particular type of student. For example, it seems that the overseas program is equally accessible to all students regardless of rural or urban backgrounds or level of fathers' occupations. This equal access may be the result of the practice of Memorial University of Newfoundland of paying for the cost of airfare for all students involved in their overseas, cross-cultural program. This factor probably eliminates any bias toward the well-to-do which might otherwise be inherent in an overseas program.

#### Intercorrelations Among the Four Dependent Variables

Table 4-7 is a correlation matrix presenting the intercorrelations among the four dependent variables on the post-test scores. Posttest scores were used because of the larger number of subjects and because the relationships were not dissimilar from those on the pretest. Several points are worthy of note.

First, the relationships among the variables tend to be similar to that predicted in Chapter II. For example, the moderate correlation (r = -.47) between dogmatism and receptivity to educational innovation seems to support the conceptual distinction drawn between the two variables. In other words, it is clear that the Dogmatism Scale in and of

	Variables	1	2	3	4
1.	Dogmatism		.01	.46**	47**
2.	Progressivism			.17*	.36**
3.	Traditionalism				29**
4.	Receptivity				

Table 4-7.--Intercorrelations Among the Dependent Variables.

\*p < .05, \*\*p < .001

itself is not a sufficient measure of receptivity to educational innovation.

A second noteworthy relationship is that between traditionalism and progressivism. The low positive correlation (r = .17) would suggest that Kerlinger's proposition that educational attitudes fall into two relatively uncorrelated factors does, indeed, hold true in this case.

Another interesting finding is that a moderate correlation existed between dogmatism and traditionalism (r = .46). Although not high, this suggests the tendency for more dogmatic individuals to be more traditional in their views. Again, this is consonant with the literature review which indicated a positive correlation between dogmatism and conservatism which in turn was reflected in traditional attitudes toward education.

Given the foregoing relationships, it is not surprising to find correlation coefficients of similar magnitudes between progressivism and receptivity (r = .36) and traditionalism and receptivity (r = -.29). In addition, it is not surprising that the correlations are in opposite directions. Those who are progressive in their attitudes toward education tend to be more receptive to educational innovation and those who are more traditional less receptive. However, since the relationships do not account for large proportions of the variance, caution is in order in generalizing beyond that warranted by the moderate correlations. In other words, the relationships are not strong enough to permit the use of one scale to predict an individual's score on another.

# Hypothesis One

Hypothesis number one in null form stated "No significant differences exist initially among the three groups of students with regard to open-mindedness, progressive/traditional attitudes toward education, and receptivity to educational innovation."

In order to test this hypothesis, two planned contrasts were established using multivariate analysis of variance (MANOVA). The principal advantage of multivariate analysis over the calculation of separate univariate F scores for each of the four dependent variables is that it takes into account any possible interactions among the four criteria that could not be examined if each of those criteria were to be tested in isolation.

Table 4-8 is a presentation of means and standard deviations obtained by the three groups on the pre-tests for the four variables. An examination of that table indicates that on the basis of the pretest the overseas students were least dogmatic and least receptive. In addition, that group was the most progressive and least traditional.

## Program Contrast 1

The first contrast was designed to compare the pre-test scores of subjects in the mixed program with the pre-test scores of those in

Program	Dogmatism	Receptivity	Progressivism	Traditionalism
	I	I	I	I
Mixed program	x̄ = 3.41	x̄ = 5.48	$\bar{x} = 5.68$	$\bar{x} = 4.43$
n = 25	SD = .61	SD = .44	SD = .55	SD = .70
Home-based program n = 15	x = 3.63 SD = .83	x = 5.78 SD = .77	$\bar{x} = 5.80$ SD = .64	x = 4.44 SD = .80
Cross-cultural program n = 18	x̄ = 3.10 SD = .79	x = 5.45 SD = .51	$\bar{x} = 5.88$ SD = .40	x = 4.32 SD = .85

Table 4-8.--Descriptive Statistics for Pre-Test Data.

the home-based student teaching program. The multivariate F (Wilks Lambda Criterion) was nonsignificant (F = 1.90, df = 4, 46, p = .13) indicating that the linear combination of the pre-test scores obtained on the four criteria was not significantly different for subjects in those two programs. For those two groups, the null hypothesis was not rejected.

# Program Contrast 2

Data from this contrast which compared the overseas students with those in the other two programs are presented in Table 4-8. The multivariate test was significant (F = 2.71, df = 4, 46, p < .05) indicating that those students who opted for the student teaching program in Britain were different from students in the other two programs.

The data in Table 4-9 suggest that although the groups did not differ at the level of significance on any one variable (although level of dogmatism is close to being significant), the biggest contributors to the multivariate difference among the groups in this contrast (as indicated by the standardized discriminant function coefficients) are dogmatism and receptivity.
Source of Variance	Variable	MS Between Groups	Univariate F <sup>a</sup>	Ρ	SDFC
Program Contrast 2:	Dogmatism	1.81	3.43	.07	1.06
Cross-cultural	Progressivism	.29	1.01	.32	53
Home-based and	Traditionalism	.13	.22	.64	.16
mixed programs	Receptivity	.22	.66	.43	-1.02

Table 4.9--Program Contrast 2: MANOVA With Pre-Test Scores as the Dependent Set.

Note: Abbreviated: SDFS = Standardized discriminant function coefficients.

 $a_{df} = 1,49$ 

# Discussion

Discussion of the results of testing hypothesis number one will focus on two points. First, the fact that those in the cross-cultural, overseas program were initially different from students in the other two groups needs some comment. That dogmatism contributed most of that difference may be explained in terms of the type of individual who seeks out a cross-cultural program. The willingness to face the unknown factors of an overseas assignment, the propensity to take the risks of learning the technical skills of teaching in an alien school system, and the readiness to forego the relative security of a home-based student teaching placement may all be indicators of a high degree of open-mindedness. In fact, the pre-test mean dogmatism score for the overseas students is lower than most groups tested in earlier studies. Of twenty-six samples reported by Alter and White (1966), only one had a lower mean dogmatism score than the students in the overseas program.

The fact that receptivity to educational innovation was a big contributor to differences between the overseas student teachers and the other two groups is more difficult to explain. Given the moderate negative correlation between the dogmatism and receptivity scales, one would expect that since the overseas students were initially least dogmatic they would be most receptive to innovation. However, an examination of the means in Table 4-8 indicates the opposite of expectations. The overseas students are least receptive. They are only marginally less receptive when compared with students in the mixed program but are much less receptive than students in the home-based program. There would seem to be no logical explanation for this finding although it is plausible given the conceptual distinction drawn between dogmatism and receptivity in Chapter II. The progressivism and traditionalism scores for the overseas student teachers are what would be predicted on the basis of the initial level of dogmatism. In other words, one would expect the least dogmatic group to be most progressive and least traditional. Those relationships did indeed obtain in the scores of the three groups.

The second point to be made regarding the initial differences among the groups relates to the manner in which the subsequent statistical analyses were conducted. Had no significant differences existed among the three groups on the pre-test, then it would have been possible to analyze post-test differences to assess differential outcomes of the three programs. Since, however, initial differences were shown to exist, it was necessary to utilize multivariate analysis of covariance

using pre-test scores as the covariate in order to ascertain whether differences existed on the post-tests.

## Hypothesis Two

Hypothesis two stated "No significant differences exist among the three groups of students with regard to changes in open-mindedness, progressive/traditional attitudes toward education, and receptivity to educational innovation." The testing of this particular hypothesis was the central focus of the present study.

## Hypothesis Test--Method One

In order to test this hypothesis, it was necessary to use multivariate analysis of covariance in order to control statistically for any differences which existed among the groups on the pre-test and which might have confounded differences among the three groups.

Two planned contrasts were conducted to test hypothesis three. Those contrasts paralleled the contrasts conducted on the pre-test scores. The first contrast compared the students in the mixed program with those in the home-based student teaching program. The second compared the overseas students with those in the other two groups.

## Program Contrast 1

When the students in the mixed program (field-work and oncampus course work) were compared with those in the home-based student teacher program with initial differences on the pre-test statistically controlled, the result was a nonsignificant F value (F = 1.25, df = 4, 42, p = .31). In other words, those two groups did not differ significantly on the post-test scores for the combination of the four variables under study.

## Program Contrast 2

When the post-test scores of those in the overseas program were compared with post-test scores attained by students in the other two programs, the result was significant (F = 3.98, df = 4, 42, p = .008). Table 4-10 presents the results of the multivariate analysis of covariance.

Table 4-10.--Program Contrast 2: MANOVA With Post-Test Scores as the Dependent Set and Pre-Test Scores as Covariate.

Source of Variation	Variable	MS Between Groups	Univariate F <sup>a</sup>	Ρ	SDFC
Program Contrast 2:	Dogmatism	.79	4.12	.048	1.00
Cross-cultural program	<b>Progressivi</b> sm	.29	2.01	.16	.71
Mixed programs	<b>Tradit</b> ionalism	.44	2.23	.14	58
	Receptivity	.14	.95	.33	22

Note: Abbreviated: SDFC = Standardized discriminant function coefficient.

 $^{a}$ df = 1,45

The data in Table 4-10 suggest that the biggest contributors to the multivariate significant difference were dogmatism, progressivism, and traditionalism. Receptivity contributed little to the differences.

To assist with interpretation of this result, Table 4-11 presents the pre-test, post-test and adjusted post-test means for the two groups on the four dependent variables.

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Mixed program (n = 25)	3.41	3.45	3.43	5.68	5.68	5.75	4.43	4.39	4.44	5.48	5.45	5.52
Home-based (n = 15)	3.63	3.68	3.51	5.80	5.82	5.77	4.44	4.35	4.30	5.78	5.34	5.32
Cross-cultural (n = 18)	3.10	2.97	3.15	5.88	5.66	5.61	4.32	4.48	4.52	5.45	5.36	5.36

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、 \*] = Pre-test mean, 2 = post-test mean, 3 = adjusted post-test mean.

## Discussion

In the interpretation of the foregoing results, it must be borne in mind that the small numbers in the groups (only one-half of each group completed both the pre-test and the post-test) may have the effect of producing spurious findings. One or two outliers in a group may inflate or deflate mean scores unduly. Given this caution, interpretations of slight differences among the groups should be tempered by that chance factor. However, where differences are great, such as is the case with dogmatism scores, it is more reasonable to assume a genuine difference. In fact, with regard to dogmatism, the crosscultural students differ significantly (p < .05) from the other two groups. This is the case even when the initial differences at the beginning of the program have been controlled by the covariance procedure.

It will be recalled from the previous section that the students in the overseas program were initially less dogmatic than were the other students and now it seems that they become even less dogmatic and more open-minded after exposure to the overseas experience.

With regard to the other variables, it will be noted that at the end of the term the overseas students are least progressive, most traditional and least receptive when compared to the other two groups. However, the differences are not great and do not approach significance. An examination of the adjusted post-test means indicates that even when initial differences were statistically controlled the ranking of the groups is relatively unchanged. Later in this section the results of the post-tests for all subjects (including those who did not do the

pre-test) will be presented. Because of the larger numbers, the results may be more stable and of more practical significance.

## Hypothesis Test--Method Two

A second approach to testing hypothesis number two is to use multivariate analysis to assess differences among the groups on the posttest scores regardless of pre-test scores. This procedure has the limitation of ignoring initial differences among the groups but it has the strength of larger numbers on which to base analyses.

### Program Contrast 1

When the students in the mixed program were compared with students in the home-based, student teaching program, the result was nonsignificant (f = 13, df = 4, 115, p = .27). This is very similar to the result obtained when only the post-test scores for the half sample which had completed the pre-test were analyzed.

## Program Contrast 2

When students in the overseas program were compared with those students in the other two programs, the multivariate test was significant (F = 3.96, df = 4, 115, p = .005). Table 4-12 presents the results of that test.

It is interesting that the result obtained here is quite similar to that obtained on the half-sample which had completed both the preand post-test. Again, dogmatism is the one variable on which the overseas students differed significantly from the students in the mixed and the home-based student teaching program.

Source of Variation	Variable	MS Between Groups	Univariate Fa	р	SDFS
Program Contrast 2:	Dogmatism	4.25	8.66	.004	1.18
Cross-cultural	Progressivism	.30	.94	.33	.36
program Home-based and	Traditionalism	.05	.11	.74	72
Mixed programs	Receptivity	.02	.07	.79	16

Table 4-12.--Program Contrast 2: MANOVA With All Post-Test Scores as the Dependent Set.

Note: Abbrevivated: SDFC = Standardized discriminant function coefficients.

<sup>a</sup>df = 1, 118

# Discussion

Since both methods of testing hypothesis number two resulted in similar findings, it seems reasonable to conclude that although the homebased student teachers do not differ from those in the mixed (coursework, field-work) program, those two groups combined differ significantly from the students in the cross-cultural program operating in England. In both sets of analyses, the overseas students were significantly less dogmatic than were students in the other programs. No significant difference existed on the other variables.

## Hypothesis Three

The third null hypothesis stated, "No significant relationships exist among (a) level of teaching preference, (b) size of hometown, (c) fathers' occupations, (d) sex, (e) level of teaching preference, and (f) major discipline and levels of open-mindedness, progressive/ traditional attitudes toward education, and receptivity to educational innovation."

In order to test this hypothesis multivariate analysis of variance was used to test for a number of interactions and to test a number of planned contrasts.

## Type of Practicum and Level of Previous Experience

The multivariate analysis of variance test for an interaction effect between type of program and level of previous classroom experience was nonsignificant (F = .66, df = 12, 121, p = .79) by the Wilks Lambda Criterion. Since there was no interaction effect, the two variables could be considered separately. The results of the program contrasts which were subsequently conducted have already been reported in section two. The following is a presentation of the results of the experience contrasts.

### Experience Contrast 1

In the earlier presentation of demographic and biographic data, it was noted that the only variable on which the groups differed was level of previous experience. Because of that difference, it was important to ascertain whether a main effect for experience was reflected in pre-test scores. The first contrast to examine this question compared those subjects having no previous experience with those who had less than twenty days classroom experience since completing secondary school. The multivariate F (Wilks Lambda Criterion) was nonsignificant (F = .83, df = 4, 46, p = .51).

#### Experience Contrast 2

The second planned comparison for a main effect for previous experience compared those who had less than twenty days experience (including those who had no experience) with those who had more than twenty days experience. The F-test in this case again produced a nonsignificant result (F = .81, df = 4, 46, p = .53).

Since there was no main effect for level of previous experience reflected in the pre-test scores in either of the contrasts, it can be assumed that although the groups differed with regard to level of previous experience, that difference was not reflected in a substantive difference on the four dependent variables.

The foregoing planned contrasts to ascertain whether there was a main effect for previous experience were conducted on the pre-test scores. This was done as has already been stated in order to check for a difference among groups initially since they differed on that variable.

Since, however, tests of relationships for all other demographic and biographic variables were conducted on the post-test scores, for the sake of completeness, the experience contrasts were conducted on the post-test scores as well.

The results of both those contrasts, which are parallels of these already reported for the pre-test scores were nonsignificant. For contrast one (those with no previous experience compared with those who had less than twenty days experience), the F value was 1.07 with 4, 42 degrees of freedom and significant at .38.

The second contrast (those who had less than twenty days compared with those who had more experience) produced an F = 1.03 with a probability of .40.

No significant relationships existed between the level of prior classroom experience of the research subjects and scores on either the pre-test or post-test.

### Major Area of Study

Three planned comparisons were conducted to test for the main effect for the discipline (area of academic major) variable. Table 4-13 presents the results of those contrasts. Because of small numbers in some cells, it was necessary to regroup into the categories presented in the table. As Table 4-13 indicates, there is no significant relationship between area of study and the linear combination of the four dependent variables.

Table 4-13.--Discipline Contrasts: MANOVA With Post-Test Scores as the Dependent Set.

	Source of Variation	df	F	р
Dis	cipline Contrasts			
1.	English, French, social sciences physical sciences	4, 109	.57	.68
2.	English, Frenchsocial sciences	4, 109	.41	.80
3.	EnglishFrench	4, 109	.99	. 41

#### Size of Hometown

Two contrasts were planned in order to establish whether a relationship existed between the size of the hometowns of the research subjects and the scores they attained on the four dependent variables.

## Hometown Contrast 1

When students from small towns (between 1,000 and 50,000 population) were compared with those from cities with more than 50,000 population a nonsignificant result was obtained (F = .93, df = 4, 111, p = .93).

#### Hometown Contrast 2

Similarly, when students from villages of less than 1,000 population were compared with those from towns and cities of more than 1,000 population, the F test was nonsignificant (F = .71, df = 4, 111, p = .59).

# Father's Occupations

The following are the results of three contrasts established to determine whether a relationship existed between fathers' occupations and dependent variable scores.

Table 4-14 presents data from those contrasts.

No significant relationships existed between the occupational level of the fathers of the research subjects and the subjects' levels of open-mindedness, extent of traditional or progressive attitudes toward education, or their receptivity to educational innovation.

#### Teaching Level

A multivariate test of significance was conducted to determine whether a difference on post-test scores existed between those who were

-				
	Source of Variation	df	F	р
Fat	thers' Occupation Contrasts:			
1.	ProfessionalTechnical/Managerial	4, 99	1.45	.22
2.	SkilledUnskilled	4, 99	1.03	. 39
3.	Professional and Technical/Managerial Skilled and Unskilled	4,99	.22	. 92

Table 4-14.--Fathers' Occupations Contrasts: MANOVA With Post-Test Scores as the Dependent Set.

studying to be elementary teachers and those who are prospective secondary teachers. The MANOVA produced a significant result (F = 3.06, df = 4, 115, p = .02).

Table 4-15 presents a breakdown of the results of that test.

Table 4-15.--Teaching Level MANOVA With Post-Test Scores as the Dependent Set.

Variable	MS Between Groups	Univariate F <sup>a</sup>	р	SDFC
Receptivity	1.55	4.67	.03	53
Dogmatism	. 39	.80	.37	.44
Traditionalism	3.69	8.78	.004	93
Progressivism	.06	.18	.67	. 10
	Variable Receptivity Dogmatism Traditionalism Progressivism	WariableMS Between GroupsReceptivity1.55Dogmatism.39Traditionalism3.69Progressivism.06	MS Between GroupsUnivariate FaReceptivity1.554.67Dogmatism.39.80Traditionalism3.698.78Progressivism.06.18	WariableMS Between GroupsUnivariate FapReceptivity1.554.67.03Dogmatism.39.80.37Traditionalism3.698.78.004Progressivism.06.18.67

Note: Abbreviation SDFC = Standardized discriminant function coefficients.

<sup>a</sup>df = 1, 118

The major contributors to the differences between the two teaching levels were receptivity to educational innovation and traditionalism. Table 4-16 is a presentation of the means obtained by the subjects in the two teaching levels on the four variables.

Table 4-16.--Post-Test Means by Teaching Level.

Teaching Level	Dogmatism	Progressivism	Traditionalism	Receptivity	
Elementary	3.30	5.59	4.35	5.46	
Secondary	3.40	5.55	4.69	5.26	

A discernible pattern is evident in Table 4-16. Prospective elementary teachers are less dogmatic, more progressive, less traditional and more receptive to educational innovation than are prospective secondary teachers. This finding is in keeping with the trend of findings reported earlier in Chapter II.

One of the possibilities posed in Chapter II concerned the effect of completing a student teaching program in the elementary schools of England upon the progressivism and traditionalism of the students involved. In order to test whether those elementary level student teachers who completed their field experience in England became more progressive and/or less traditional than students in the other programs a multivariate analysis of covariance test for an interaction between praticum group by teaching level was conducted. The result was nonsignificant (F = 1.25, df = 8, 88, p = .28) indicating that, in fact, the exposure to the elementary schools in England did not result in a significantly different attitudinal outcome when compared with the two other programs. Sex

It is perhaps not surprising that the findings regarding the scores of males and females would be similar to those attained when the scores were analyzed by teaching level. Since 87 percent of all elementary level teachers were female and 63 percent of all secondary level teachers were male, one might expect this to be the case. Never-theless, there were some differences. Although there was a significant difference between males and females on the multivariate test (F = 3.02, df = 4, 115, p = .02), Table 4-17 indicates that the differences between them did not exactly parallel the differences between the elementary and secondary teachers.

Table 4-17.--Sex Contrast: MANOVA With Post-Test Scores at the Dependent Set.

Source of	Variable	MS			SDEC
Variation	variable	Groups	Fa	μ	JULC
Sex:	Receptivity	3.75	11.59	.0009	80
MaleFemale	Dogmatism	2.19	4.55	.03	17
	Traditionalism	1.10	2.45	.12	17
	Progressivism	.57	1.71	.19	.13

Note: Abbreviation SDFC = Standardized discriminant function coefficient.

adf = 1, 118

Table 4-18 indicates the direction and extent of differences which caused the results reported in Table 4-17.

Sex	Dogmatism	Receptivity	Traditionalism	Progressivism
Male	3.55	5.14	4.64	5.50
Female	3.23	5.50	4.46	5.62

Table 4-18.--Post-Test Means by Sex.

Once again, the pattern across teaching levels is evident across the sex variable. Females tend to be less dogmatic, more receptive to educational innovation, less traditional and more progressive in their • attitudes toward education. However, in this case, the two univariate F tests results which are significant are those for receptivity and dogmatism.

#### Discussion

Hypothesis number three was designed to be exploratory in nature. In the review of literature in Chapter II, some evidence was presented to suggest that students in certain subject areas were less dogmatic than others; that females tended to be less dogmatic than males; that elementary teachers tended to be more progressive and less traditional than secondary teachers and so forth. As was noted in Chapter II, the evidence in support of these and the many other findings reported in that chapter is tentative and inconclusive.

The testing of hypothesis number three was an attempt to shed some light on these inconsistencies.

Of the demographic, biographic, and programmatic variables tested, only the sex variable and the teaching level variable were significant. The pattern which has already been reported tended to hold true across both variables.

## Other Findings

This section is devoted to an examination of a set of findings which do not relate specifically to the topics dealt with in the previous segments of this chapter.

Those findings deal with the effect of the research design adopted for the present study.

### Pre-Test Effect

In the discussion of the research design in Chapter III, it was indicated that only one-half of the subjects in each practicum group had received the pre-test whereas all had been administered the post-test. This was done in order to be able to check as to whether the taking of the pre-test had any effect on scores achieved on the post-test. By comparing the post-test scores of those who did the pre-test with the post-test scores of those who did not have the benefit of the pre-test, it was possible to test for interaction and main effects for the pretest.

A multivariate analysis of variance test indicated no interaction between the pre-test and the practicum group variable (F = 1.3, df = 8, 232, p = .23). However when the same procedure was used to check for a main effect for pre-test, the result was highly significant (F =3.6, df = 4, 115, p = .008). This suggests that those who had been administered the pre-test had significantly different scores when compared with those who had not done the pre-test. Since those who completed the pre-test constituted a random sub-sample of each practicum group, this finding is significant for two reasons. First, if the pre-test had the effect of sensitizing subjects and as a result their post-test scores were affected, then the results of the analysis of post-test scores for those who had the pre-test cannot be generalized because in effect the pre-test becomes an integral part of the treatment condition. The information in Table 4-19 is helpful in ascertaining whether, in fact, the pre-test effect has a contaminating effect upon the post-test outcomes. From that table, it is clear that the greatest impact of the effect of taking the pre-test was upon the level of progressive and traditional attitudes toward education. Since those particular variables were not among those accounting for the significant differences among the subjects in the practicum groups (either initially or on the post-test), we can be reasonably safe in assuming that although the pre-test had an effect, it did not determine the differences among the practicum groups on the dogmatism variable.

Source of Variation	Variable	MS Between Groups	Univariate Fa	р	SDFC
Pre-test effect:	Receptivity	.19	.54	.46	.18
Pre-test	Dogmatism	.10	.21	.65	.51
no pre-test	Traditionalism	.92	2.05	.15	89
	Progressivism	2.16	<b>6.</b> 80	.01	.95

Table 4-19.--Pre-Test/Post-Test MANOVA With the Post-Test Scores as the Dependent Set.

Note: Abbreviation SDFC = Standardized discriminant function coefficient.

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<sup>a</sup>df = 1, 118

Table 4-20 indicates the direction of differences on the four variables by the pre-test factor.

Pre-Test	Dogmatism	Receptivity	Progressivism	Traditionalism
No	3.34	5.31	5.40	4.60
Yes	3.37	5.39	5.72	4.43

Table 4-20.--Post-Test Scores by Pre-Test/No Pre-Test.

For some reason, those who completed the progressivism and traditionalism pre-tests seem to have different scores on the post-test for those two scales. The differences on the dogmatism and receptivity scales are not as pronounced.

### Discussion

The finding regarding the differences between the post-test scores for those who did the pre-test compared with those who did not complete the pre-test has several possible explanations. First, there is the possibility that a Type I error was made; that is that a true hypothesis was in fact rejected. A second explanation is that having done the pre-test, the subjects had become sensitized and as a result their responses were different on the post-test either as a result of reflecting upon their responses or as a result of having spent some time in school systems after completing the pre-test. However, since there was no interaction between whether an individual had or had not completed the pre-test and the particular practicum group in which he happened to be, we can only conclude that the three programs did not interact differentially (at least at a statistically significant level) with the effect of having completed the pre-test.

A third possible explanation is that although those who completed the pre-test were selected in a random manner (by using a table of random numbers), in fact the small numbers in each group resulted in a non-random sampling from each group.

The second point to be made regarding this finding is that it casts doubt upon the efficacy of using pre-test/post-test designs where no strategies are utilized to control for the effect of pre-testing. Implications of this will be discussed in Chapter V.

### Summary

In this chapter, the findings of the study have been presented along with interpretative discussion regarding those findings. Chapter V will be devoted to a discussion of the conclusions to be reached and implications to be drawn from the findings herein. The following is a summary of those findings.

- With the exception of level of classroom experience, students in the three groups were not significantly different from each other on a number of demographic, biographic, and programmatic variables (sex, teaching level, size of hometown, fathers' occupations, grade point averages, and area of academic major).
- 2. Those students who enrolled in the overseas student teaching program were initially different from those who enrolled in the other two programs. The major contributor to that difference was the dogmatism variable with receptivity of secondary importance.

- 3. Those who completed the overseas cross-cultural program were even less dogmatic at the end of the field experience term than they were at the beginning. In addition, at the end of the term, those in the cross-cultural program were significantly less dogmatic than were students in the other two programs.
- A significant difference existed between males and females on receptivity to educational innovation and dogmatism. Females were more open-minded and more receptive.
- 5. A significant difference existed between prospective elementary teachers and prospective secondary teachers on traditionalism and receptivity to educational innovation. Elementary students were both more receptive and less traditional.
- 6. A significant difference existed between the post-test scores of those who had completed the pre-test and those who had not completed the pre-test. Those who completed the pre-test had higher progressivism scores.

## CHAPTER V

## CONCLUSIONS AND RECOMMENDATIONS

This chapter begins with a review of the problem and the research procedures utilized in the study followed by a discussion of the conclusions to be reached and the implications to be drawn from the findings presented in Chapter IV. In the concluding section, recommendations for future research are presented.

## Review of the Problem and Procedures

It is perhaps trite but true to suggest that the history of education is the story of an educational pendulum forever swinging between liberal and conservative positions. Given such a state of flux, those who are charged with the responsibility of preparing teachers for the future find themselves in a difficult position. Traditional school districts seek individuals who will be in tune with their particular brand of educational philosophy and progressively oriented school districts seek teachers who will fit into their established modus operandi. In most instances teacher training institutions do not explicitly declare allegiance to one or the other particular school of thought. Even if they do officially declare for one side or the other, they probably will experience difficulty in providing student teaching experiences which are consonant with the philosophy and bias of the

training program. Throughout this study researcher bias and commitment has not explicitly been made public. The notions of traditionalism and progressivism, for example, have been presented in what is hoped is a neutral, unbiased fashion. Given the need for different types of teachers for different schools in different societal contexts the question as to whether traditional teachers are more or less desirable than progressive ones is a philosophical question of value to be answered on those grounds rather than on empirical ones. Empirical data may bear on the issue but ultimately as with almost all educational issues, the question necessitates a value judgment.

This report, however, is not free of researcher bias. A basic assumption underlying this project is that regardless of the "type" of teacher (progressive, traditional, or otherwise) society has the right to expect that he or she will be open-minded to the extent that new ideas will be evaluated objectively; that they will neither be mindlessly adopted nor rejected out of hand as being unworthy or unworkable.

The problem in this study was to assess three methods of providing practical experiences for prospective teachers. The first issue studied was that surrounding the type of individual attracted to each program. The second and central focus of the study was the measurement of attitude change experienced by individuals in the three programs. The particular attitudes and outcomes assessed were open-mindedness, receptivity to educational innovation, progressivism, and traditionalism. The three programs studied were: (a) one which combined course work with distributed school practice, (b) a thirteen week student teaching practicum, and (c) a thirteen week overseas cross-cultural student teaching program.

The final question examined the relationships among certain demographic and biographic factors and the degree of open-mindedness, level of receptivity to educational innovation, and extent of progressive and traditional attitudes toward education.

All students in the student teaching programs (home-based and overseas) during the 1976-77 academic year were included for study. A random sample of students in the mixed program was studied. A random sample of half of the research subjects in each program completed a pre-test at the beginning of the academic term and all subjects completed a post-test in the last week of the term.

## Findings and Conclusions

An analysis of background variables of the subjects in the three samples indicated that the groups were not significantly dissimilar except with regard to amount of previous classroom experience. That experience (defined as time spent in public school classrooms engaged in any activity including observation) could have stemmed from a number of sources. First, some pedagogy courses have school practices attached as part of the requirements. Second, some student teachers may have already taught in supply or substitute capacities in situations where more qualified teachers were not readily available. Third, there is the possibility that some students would have completed the mixed program prior to going on to enroll in either the home-based or overseas student teaching program.

In order to ascertain whether the differences among the groups on the experience variable might have accounted for any initial differences on pre-test or post-test scores, multivariate tests were conducted

and in both instances the relationship of amount of experience to scores attained on the attitude scales was nonsignificant.

This is interesting because one can reasonably assume that the exposure was to public school classrooms in Newfoundland where, in fact, the mixed program and the home-based programs are conducted. This being the case, it is probably not surprising that level of experience did not affect dependent variable scores since neither of those two particular programs affected scores to a significant extent. This particular conclusion, that exposure to the school system does not have significant impact upon attitudes, is reinforced by an examination of the differences between pre-test and post-test scores for students in the two programs operating in Newfoundland. Almost without exception, there is little movement in terms of change between pre-test and posttest. This finding is different from the trend reported in the literature which suggests that exposure to on-campus course work leads to more progressive, less traditional attitudes whereas exposure to field work leads to less progressive and more traditional attitudes. One might normally expect that if this were the case, the mixed program might have a neutral effect (the effect of the field-work balancing out the effect of exposure to on-campus courses and professors), however that argument does not hold in the case of the thirteen-week home-based student teaching program.

It might be interesting to investigate whether the Newfoundland situation parallels those reported elsewhere. It just may be the case that education professors and prospective teachers there are no more progressive and no less traditional than are public school teachers.

This would explain the lack of change between pre-tests and post-test and the lack of an effect for amount of experience.

The finding that those who opt for the overseas program are initially different from other students has already been explained in terms of the type of individual who would forego the security of a known situation for an unfamiliar one. This seems to be the most plausible interpretation of the finding that the overseas students are more openminded than are the other students.

There are several interpretations of the finding that those who opted for the overseas program were not only more open-minded initially but became moreso during the overseas assignment. First, the British and Newfoundland cultures may be dissimilar but yet enough alike to allow changes of the nature predicted by Festinger's theory of cognitive dissonance. If the two cultures were very dissimilar with fewer commonalities, the result may have been the boomerang effect referred to in Chapter II. The second interpretation is an extension of the first. It seems logical that an individual who is initially open-minded may become moreso as a result of contact with an alien culture. The exposure to different values, norms, and mores may have the effect of decreasing the level of dogmatism.

It has been reported in earlier studies that those who are initially open do not become more open-minded and this is usually explained in terms of a ceiling effect. That generalization does not seem to hold true in this case. This is so in spite of the fact that the overseas student teachers were among the least dogmatic of many samples tested.

It was not the purpose of this research to assess the "quality" of the programs under study. Such an assessment would necessarily have to be based on a much wider and varied group of outcomes. Nevertheless within the limited scope of this work, some tentative verdicts seem justified.

In Chapters I and II a plethora of studies was cited indicating that with few exceptions, the student teaching experience resulted in less than desirable attitudinal shifts on the part of the students involved. This study has indicated that at Memorial University, the three programs do not seem to have such deleterious effects as those almost universally reported. Specific reasons for such a finding were beyond the scope of this study to ascertain. Perhaps further studies are warranted in an attempt to isolate those critical factors which significantly influence student attitudes.

A second issue of interest relates to the efficacy of the overseas program in England vis a vis the other two programs which operate in Newfoundland. The finding of this study suggests that the crosscultural program may result in increased open-mindedness and less dogmatism within the students who participate. Given the strong positive correlation between dogmatism and authoritarianism and dogmatism and prejudice, it may be argued that the overseas program has positive outcomes. To be open-minded is to have a concern for rationality and for truth. In that sense, increased open-mindedness is an aim of education and particularly for those who will later assist others in the pursuit of truth. If true education (as opposed to indoctrination, training, conditioning, and instruction) involves engaging the rationality of the learner then open-minded teachers are requisite to the creation of

educational atmospheres and environments in which cherished and commonly held assumptions are held accountable to scrutiny and question. To the extent that teacher education programs produce that result, it may be argued they are successful.

The finding regarding the attitudes of males versus females and elementary teachers versus secondary teachers are consistent with findings reported in Chapter II. Elementary teachers who are largely female tend to be more child-centered and place less emphasis on the teaching of the bodies of knowledge of particular disciplines than do secondary and male teachers. Likewise, they tend to be less custodial in their pupil control ideology than are males and secondary teachers.

The finding that males are more dogmatic than females is also consonant with earlier reported findings.

One of the most significant findings of this study is that related to the fact that a pre-test effect was evident in the post-test scores of the research subjects. This effect was similar across programs. Generally, those who completed the pre-test had lower traditionalism scores and higher progressivism scores than did those who had not completed the pre-test. The scores on dogmatism and receptivity do not seem to have been affected. However, that tentative conclusion should be tempered by the possibility that the pre-test may have had the effect of restraining any potential changes on those latter two variables. Some possible explanations for this finding have already been presented in Chapter IV.

It seems that in this instance, pre-testing prior to the student teachers' experience may have had the effect of causing the subjects to adopt a set of attitudes that they might not have adopted had they not been administered the pre-test.

The most important implication of this finding is that studies which utilize the classic pre-test/post-test, two-group design may not have the generalizability often assumed since it is impossible to ferret out the effect of the treatment versus the effect of the treatment in interaction with the pre-test. In the conduct of attitude research, alternatives to the two-group pre-test/post-test design must be utilized. Two possible designs are the randomized two group post-test design and the Solomon four group design. In both of those instances, it is possible to test for program effects without the possibility of pre-test interaction affecting the post-test outcome.

#### Recommendations for Further Study

Hindsight is sometimes more precise than foresight. Certainly that is the case here and it is with the benefit of that hindsight that the following recommendations are presented.

Research such as that conducted herein is piecemeal. It leaves more questions unanswered than it actually answers. Studies such as this one can be more meaningful if they are conducted within the framework of a larger overall strategy or research program. Longitudinal studies which trace the stability or malleability of student attitudes from entry into preservice programs through to the early years of inservice experience are needed. However, that alone is insufficient. Connections would have to be made between attitudinal structures and adopted teaching styles. Contextual variables such as student teaching contexts, professional and peer contracts during periods of study, and

administrative and other constraints once on the job should be included in any comprehensive program of research.

Finally, that effort would have to proceed simultaneously with the attempt to make the connections between the effect of teacher education and the effects of teaching. Some effort must be made to trace the effect of teacher education programs upon teacher behaviors which in turn can be shown to have at least some probability for success in teaching, however that may be defined.

The main point is that without a comprehensive research program, the findings of short-term small scale studies are difficult to interpret in any meaningful way that can have the potential for impact on practice.

Proverbially all roads may lead to Rome, however in teacher education we are yet a long way from the Piazza Venezia. Our progress is slow and uncertain because there are no maps to guide us. That, of course, is the nature of research. SELECTED BIBLIOGRAPHY

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APPENDICES

APPENDIX A

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ITEMS FROM THE SHORT FORM DOGMATISM SCALE

#### APPENDIX A

#### ITEMS FROM THE SHORT FORM DOGMATISM SCALE

- 1. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.
- 2. My blood boils whenever a person stubbornly refuses to admit he's wrong.
- 3. There are two kinds of people in this world: those who are for the truth and those who are against the truth.
- 4. Most people just don't know what's good for them.
- 5. Of all the different philosophies which exist in this world there is probably only one which is correct.
- 6. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.
- 7. The main thing in life is for a person to want to do something important.
- 8. I'd like to, if I could, find someone who would tell me how to solve my personal problems.
- 9. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.
- 10. Man on his own is a helpless and miserable creature.
- 11. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
- 12. Most people just don't give a "damn" for others.
- 13. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
- 14. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.

- 15. The <u>present</u> is all too often full of unhappiness. It is only the future that counts.
- 16. The United States and Russia have just about nothing in common.
- 17. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
- 18. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.
- 19. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
- 20. It is better to be a dead hero than to be a live coward.

APPENDIX B

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ITEMS FROM THE EDUCATION SCALE VII

#### APPENDIX B

#### ITEMS FROM THE EDUCATION SCALE VII

- 1. Teachers need to be guided in what they are to teach. No individual can be permitted to do as he wishes, especially when it comes to teaching children.
- 2. Learning experiences organized around life experiences rather than around subjects is desirable in our schools.
- 3. We should fit the curriculum to the child and not the child to the curriculum.
- 4. Subjects that sharpen the mind, like mathematics and foreign languages, need greater emphasis in the public school curriculum.
- 5. Since life is essentially a struggle, education should emphasize competition and the fair competitive spirit.
- 6. The healthy interaction of pupils one with another is just as important in school as the learning of subject matter.
- 7. The organization of instruction and learning must be centered on universal ideas and truths if education is to be more than passing fads and fancies.
- 8. The curriculum should contain an orderly arrangement of subjects that represent the best of our cultural heritage.
- 9. True discipline springs from interest, motivation, and involvement in live problems.
- 10. Emotional development and social development are as important in the evaluation of pupil progress as academic achievement.
- 11. Education and educational institutions must be sources of new social ideas.
- 12. Children should be taught that all problems should be subjected to critical and objective scrutiny, including religious, moral, economic, and social problems.

- 13. One of the big difficulties with modern schools is that discipline is often sacrificed to the interests of children.
- 14. Teachers should encourage pupils to study and criticize our own and other economic systems and practices.
- 15. Children need and should have more supervision and discipline than they usually get.
- 16. Schools should teach children dependence on higher moral values.
- 17. The public school should take an active part in stimulating social change.
- 18. Learning is experimental; the child should be taught to test alternatives before accepting any of them.
- 19. Learning is essentially a process of increasing one's store of information about the various fields of knowledge.
- 20. The curriculum consists of subject matter to be learned and skills to be acquired.
- 21. The learning of proper attitudes is often more important than the learning of subject matter.
- 22. It is more important that the child learn how to approach and solve problems than it is for him to master the subject matter of the curriculum.
- 23. The true view of education is so arranging learning that the child gradually builds up a storehouse of knowledge that he can use in the future.
- 24. What is needed in the modern classroom is a revival of the authority of the teacher.
- 25. Teachers should keep in mind that pupils have to be made to work.
- 26. Schools of today are neglecting the three Rs.
- 27. Standards of work should not be the same for all pupils; they should vary with the pupil.
- 28. The goals of education should be dictated by children's interests and needs, as well as by the demands of society.
- 29. Each subject and activity should be aimed at developing a particular part of the child's makeup: physical, intellectual, social, moral, or spiritual.

30. Right from the very first grade, teachers must teach the child at his own level and not at the level of the grade he is in.

Progressive Items--2, 3, 6, 9, 10, 11, 12, 14, 17, 18, 21, 22, 27, 28, 30

Traditional Items--1, 4, 5, 7, 8, 13, 15, 16, 19, 20, 23, 24, 25, 26, 29

## APPENDIX C

# ITEMS FROM THE RECEPTIVITY TO EDUCATIONAL INNOVATION SCALE

#### APPENDIX C

#### ITEMS FROM THE RECEPTIVITY TO EDUCATIONAL

#### INNOVATION SCALE

- 1. Team teaching causes too many problems.
- 2. Half-day of school and a half-day of work (work-study) is a poor program, as there are still many dropouts.
- 3. Although Modern Math has been instituted in many schools, I think the traditional approach to learning math is best.
- 4. I feel the new flexible type of school building encourages disorganization and confusion.
- 5. I believe teacher-aides are a luxury to give teachers more free periods.
- 6. Allowing students to progress academically, as fast as they are able is <u>not</u> a wise policy.
- 7. The teaching of driver education is a "frill," and should not be taught during the school day.
- 8. I feel there are many places a student can learn to swim, therefore, it is not necessary to have swimming taught in the school.
- 9. There is no need for guidance-counselors in the elementary school, as the teacher knows the students and parents, and can handle their problems.
- 10. The numerical grade system is the best method of reporting achievement to the parents.
- 11. Audio-visual materials are used by many teachers as an excuse "not to teach."
- 12. I believe that little educational value is gained by the school system when teachers attend conferences.

- 13. It is difficult for me to see how sex education can be taught in the public schools.
- 14. Although carpeting has some positive points in its favor, it doesn't belong in the schools.
- 15. The abolition of corporal punishment would result in increased discipline problems.
- 16. Governmentally prescribed textbooks are necessary to ensure an adequate level of good teaching.
- 17. I believe activity and discovery methods are too time consuming to be adopted on a large scale.
- 18. The abolition of public examinations would not serve any worthwhile purpose.
- 19. Generally, women are not suited to be principals.
- 20. I believe that the elementary school is too early to start teaching a foreign language.
- 21. I believe it is not the job of the school to teach about venereal disease.
- 22. Coed physical education classes in junior and senior high school would cause too many problems.

APPENDIX D

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ITEMS DROPPED FROM ORIGINAL POOL OF RECEPTIVITY TO EDUCATIONAL INNOVATION QUESTIONS

#### APPENDIX D

# ITEMS DROPPED FROM ORIGINAL POOL OF RECEPTIVITY

# TO EDUCATIONAL INNOVATION QUESTIONS

Items dropped from the original pool of questions designed for the Receptivity to Educational Innovation Scale after assessment by a panel of six judges.

- 1. Computerized data processing of student records would be too costly to consider.
- The "school within a school" concept creates administrative confusion.
- 3. The voucher system of providing education is too unwieldy to be effective.
- 4. Modular scheduling sounds good in theory but is a chaotic system for both pupils and teachers.

Items dropped from the pool of questions designed for the Receptivity to Education Innovation Scale after statistical analyses.

- 1. I believe that we should not teach about Communism in the schools.
- 2. It is difficult to see the value of kindergarten as it is mostly a play period.
- 3. The Language Laboratory is not necessary to the teaching of a foreign language.
- 4. Reading specialists are not essential to a good school program.

APPENDIX E

COMBINED SCALES AS PRESENTED TO RESEARCH SUBJECTS

### APPENDIX E

## COMBINED SCALES AS PRESENTED TO RESEARCH SUBJECTS

#### SOCIOLOGICAL AND EDUCATIONAL QUESTIONNAIRE

by

Royston Kelleher

Data obtained from this questionnaire will be kept strictly confidential.

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Instructions:

Given below are a number of statements concerning social and educational issues and problems about which we all have beliefs, opinions and attitudes. We have tried to cover many different and opposing points of view. The best answer to each is <u>your personal opinion</u>. Individuals are sometimes frustrated with the wording of some of the statements and feel a compulsion to rephrase them. Please do not try to interpret or "read things into" the statements. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do. Respond to each of the items as follows:

Agree Very Strongly	+3	Disagree Very Strongly	-3
Agree Strongly	+2	Disagree Strongly	-2
Agree	+1	Disagree	-1

For example, if you agree very strongly with a statement, you would write +3 on the short line preceeding the statement. Respond to each statement as best you can. Do not spend too much time on any one statement; try to respond and then go on. Please mark every one.

- I. In this complicated world of ours the only way we can know what's going on it to rely on leaders or experts who can be trusted.
- \_\_\_\_ 2. We should fit the curriculum to the child and not the child to the curriculum.
- 3. Subjects that sharpen the mind, like mathematics and foreign languages, need greater emphasis in the public school curriculum.
- \_\_\_\_ 4. The teaching of driver education is a "frill," and should not be taught during the school day.
- 5. I feel there are many places a student can learn to swim, therefore, it is not necessary to have swimming taught in the school.
- \_\_\_\_ 6. Education and educational institutions must be sources of new social ideas.
- 7. Children should be taught that all problems should be subjected to critical and objective scrutiny, including religious, moral, economic, and social problems.
- 8. My blood boils whenever a person stubbornly refuses to admit he's wrong.
- 9. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

Agree Agree Agree	Very Strongly Strongly	+3 +2 +1	Disagree Very Disagree Stron Disagree	Strongly gly	-3 -2 -1
10.	The numerical gr achievement to t	rade system is the the parents.	e best method o	f reporting	
_ 11.	Audio-visual mat "not to teach."	erials are used b	y many teacher	s as an excu	se
12.	One of the big d is often sacrifi	ifficulties with ced to the intere	modern schools sts of childre	is that disc n.	cipline
13.	Teachers should and other econom	encourage pupils ic systems and pr	to study and c actices.	riticize our	own
14.	It is often desin until one has had respects.	rable to reserve 1 a chance to hea	judgment about r the opinions	what's going of those one	g on e
15.	The organization on universal idea passing fads and	of instruction a as and truths if fancies.	nd learning mus education is to	st be centere b be more that	ed an
16.	The curriculum sh that represent th	nould contain an ne best of our cu	orderly arrange ltural heritage	ement of subj 2.	jects
17.	In a discussion l several times to	often find it no make sure I am bo	ecessary to rep eing understood	beat myself 1.	
18.	While I don't lik ambition is to be or Shakespeare.	e to admit this e come a great man	even to myself, , like Einsteir	, my secret 1, or Beethow	ven,
19.	Reading specialis	sts are <u>not</u> essen	tial to a good	school progr	am.
20.	There is no need school, as the te handle their prob	for guidance-cou eacher knows the olems.	nselors in the students and pa	elementary arents, and c	an
21.	Right from the ve at his own level	ery first grade, and not at the l	teachers must t evel of the gra	ceach the chi ade he is in.	ld
22.	Although carpetin doesn't belong i	ng has some posit n the schools.	ive points in i	its favor, it	
23.	The abolition of discipline probl	corporal punishm ems.	ent would resul	t in increas	ed
24.	Children need an than they usuall	d should have mor y get.	e supervision a	and disciplin	e

\_\_\_\_ 25. Schools should teach children dependence on higher moral values.

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Agree Agree Agree	Very Strongly Strongly	+3 +2 +1	Disagree Disagree Disagree	Very Strongly Strongly	-3 -2 -1
26.	Most people just	t don't know what	's good fo	or them.	
27.	Of all the diffe there is probabl	erent philosophies y only one which	s which ex is correc	tist in this worl t.	d
28.	The public schoo social change.	l should take an	active pa	rt in stimulatin	g
29.	Learning is expe alternatives bef	rimental; the chi ore accepting any	ld should of them.	be taught to te	st
30.	Governmentally pr adequate level or	rescribed textboo f good teaching.	oks are ne	cessary to ensur	e an
31.	I believe activit to be adopted on	ty and discovery a large scale.	methods a	re too time cons	uming
32.	Learning is esser information about	ntially a process the various fie	of incre lds of kn	asing one's stor owledge.	e of
33.	The curriculum co skills to be acqu	onsists of subjec lired.	t matter	to be learned an	d
34.	I'd like to, if I solve my personal	could, find som	eone who	would tell me ho	w to
35.	Most of the ideas paper they are pr	which get print rinted on.	ed nowada	ys aren't worth	the
36.	Teachers need to vidual can be per comes to teaching	be guided in wha mitted to do as g children.	t they ar he wishes	e to teach. No , especially whe	indi- n it
37.	Learning experient than around subject	nces organized ar ects is desirable	ound life in our s	exp <mark>erienc</mark> es rat chools.	her
38.	Schools of today	are neglecting t	he three	Rs.	
39.	Standards of wor should vary with	k should not be t the pupil.	he same f	or all pupils; t	hey
40.	Although Modern the traditional	Math has been ins approach of teach	tituted i	n many schools, is best.	I think
41.	I feel the new f disorganization	lexible type of s and confusion.	chool bui	lding encourages	

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Agree Agree Agree	Very Strongly Strongly	+3 +2 +1	Disagree Disagree S Disagree	Very Strongly Strongly	-3 -2 -1
42.	Even though free goal, it is unfo certain politica	edom of speech for ortunately necessa 1 groups.	r all group ary to rest	os is a worthwh trict the freedo	ile om of
43.	It is better to	be a dead hero th	nan to be a	a live coward.	
44.	It is difficult a play period.	to see the value	of kinderg	garten as it is	mostly
45.	Coed physical ed would cause too	ucation classes i many problems.	n junior a	und senior high	school
46.	The learning of the learning of	proper attitudes subject matter.	is often m	nore important f	than
47.	It is more import solve problems th of the curriculur	tant that the chi han it is for him n.	ld learn h to master	now to approach the subject ma	and atter
48.	The <u>present</u> is a the <u>future</u> that o	ll too often full counts.	of unhapp	oiness. It is a	only
49.	The United States	s and Russia have	just abou	it nothing in co	ommon.
50.	I believe that li system when teach	ittle educational ners attend confe	value is rences.	gained by the s	school
51.	It is difficult f the public school	for me to see how ls.	sex educa	ition can be tai	ught in
52.	The goals of educests and needs, a	cation should be as well as by the	dictated b demands c	by children's in of society.	nter-
53.	Each subject and cular part of the social, moral, or	activity should child's makeup: spiritual.	be aimed a physical	t developing a , intellectual	parti- ,
54.	The highest form form of democracy intelligent.	of government is / is a government	a democra run by th	acy and the hig nose who are mo	hest st
55.	The main thing in important.	n life is for a p	erson to v	want to do some	thing
56.	Team Teaching ca	uses too many pro	blems.		
57.	Half-day of schoo program, as there	ol and a half-day e are still many	of work dropouts.	(work-study) is	a poor

Agree Agree Agree	Very Strongly Strongly	+3 +2 +1	Disagree Very S Disagree Strong Disagree	Strongly Jly	-3 -2 -1
58.	Man on his own	is a helpless and	miserable creat	cure.	
59.	It is only when that life become	a person devotes es meaningful.	himself to an i	deal or caus	e
60.	True discipline ment in live pro	springs from inte oblems.	erest, motivatio	n, and invol	ve-
61.	Emotional develo in the evaluatio	opment and social on of pupil progre	development are ss as academic	as importan achievement.	It
62.	I believe teache periods.	er-aides are a lux	ury to give tea	chers more f	ree
63.	Allowing student able is not a wi	s to progress aca se policy.	demically, as f	ast as they	are
64.	What is needed i authority of the	n the modern clas teacher.	sroom is a revi	val of the	
65.	Teachers should	keep in mind that	pupils have to	be made to	work.
66.	Most people just	don't give a "da	mn" for others.		
67.	To compromise wi it usually leads	th our political to the betrayal	opponents is dar of our own side.	ngerous beca	use
68.	Since life is est competition and	sentially a strug the fair competit	gle, education s ive spirit.	should empha	size
69.	The healthy inter important in sch	raction of pupils ool as the learnin	one with anothen of subject ma	er is just as itter.	5
70.	The Language Lab foreign language	oratory is <u>not</u> ne •	cessary to the t	eaching of a	3
71.	I believe that w schools.	e should not teac	h about Communis	m in the	
72.	The true view of child gradually use in the futur	education is so builds up a store e.	arranging learni house of knowlec	ing that the lge that he c	an
73.	I believe that t teaching a forei	he elementary sch gn language.	ool is too early	v to start	
74.	I believe it is disease.	not the job of th	e school to teac	h about vene	ereal

Agree Very Strongly	+3	Disagree Very Strongly	-3
Agree Strongly	+2	Disagree Strongly	-2
Agree	+]	Disagree	-1

- \_\_\_\_\_75. The abolition of grade eleven public examinations would not serve any worthwhile purpose.
- 76. Generally, women are not suited to be principals.

PLEASE ANSWER THE FOLLOWING

- How much classroom experience (including observation) have you had since completing high school? (Please circle the appropriate letter.)
  - A. None
  - B. 1 to 5 days
  - C. 6 to 20 days
  - D. 21 to 190 days
  - E. More than one year
- 2. What is the size of your hometown (where you attended elementary school)? (Please circle the appropriate letter.)
  - A. Below 250
  - B. 250-1000
  - C. 1000-10,000
  - D. 10,000-50,000
  - E. over 50,000
- 3. What is your father's occupation?
- 4. What is your Memorial University Student Number?\_\_\_\_\_







