

Teacher Attitudes Toward Mainstreaming Related to
Teacher Perceptions of Mainstreaming and Teacher
Observations of Principal Behaviours

by

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Curriculum Studiorum

Cheryll A. Duquette was born March 1, 1952 in London, Ontario. She received her B.A. from Carleton University in 1973, her teaching certificate from Ottawa Teachers College in 1974, and her M.Ed. from the University of Ottawa in 1981.

Abstract

Rogers (1983) defines an innovation as an idea, practice, or object that is perceived as new by an adopting individual or other adopting unit. Mainstreaming is an educational innovation of major importance in current educational ideology and practice. Two variables, among others, appeared to be related to teacher attitudes toward educational innovations. These variables are teacher perceptions of the innovation and principal behaviours during the implementation of the innovation. It was therefore the purpose of this study to examine the relationships of these two variables and attitudes of regular education teachers toward mainstreaming. The term, mainstreaming, is defined as the instruction of exceptional students in regular education classrooms for at least 25% of the day. Students identified as gifted were not included in this definition.

Rogers' (1983) model of the innovation-decision process and Dalin's (1978) factors related to educational change provided the conceptual framework for this study. One element of Rogers' (1983) model is the perceived characteristics of an innovation. These five characteristics are further divided into 11 dimensions, which in this study were used to examine teacher perceptions of mainstreaming. Dalin's (1978) four factors of educational change provided the basis for assessing the principal's role in mainstreaming.

Instruments representative of Rogers' (1983) perceived dimensions of an innovation and Dalin's (1978) four factors were adapted for use in this study. One hundred and eighty nine classroom teachers responded to items on the questionnaire. All teachers whose responses were analyzed had previously mainstreamed exceptional students for at least 25% of the day.

The findings indicate that teacher perceptions of mainstreaming and behaviours of school principals were both related to teacher attitudes toward mainstreaming. All 11 dimensions related to perceptions and all 4 factors related to the principal's behaviours were significantly related to teacher attitudes toward mainstreaming. Further analysis demonstrated that a set of six dimensions (difficult to do, observability, existing values, trialability, social prestige, and economy) and one factor (innovation) were the best predictors of teacher attitudes toward mainstreaming.

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. REVIEW OF THE LITERATURE	8
Teacher Perceptions of Mainstreaming	8
Mainstreaming as an Innovation	8
Empirical Studies on Teacher Perceptions of Educational Innovations	9
Rogers' (1983) Model of Stages in the Innovation-Decision Process	12
Discussion of Rogers' (1983) Model in Relation to Mainstreaming	17
Relative Advantage	18
Compatibility	20
Complexity	21
Trialability	22
Observability	22
The Principal's Role in the Implementation of Mainstreaming	23
Dalin's (1978) Factors of Educational Change	29
The Educational Setting	31
The Environment	33
The Innovation	37
The Change Strategy	43
Summary	46
Purpose of the Study	47
Hypotheses	48
Limitations of the Study	48
III. RESEARCH METHODOLOGY	50
Sample	50
Instrumentation	50
Part I	50
Part II	51
Part III	59
Part IV	64
Data Collection Procedures	66
Data Analysis	67
IV. PRESENTATION OF RESULTS	60
Sample	69
Independent Variable	73
Teacher Perceptions of Mainstreaming	73
Teacher Observations of the Principal's Behaviours	73
Relationship between Independent Variables	77
Dependent Variable	77

Table of Contents cont'd.

	<u>Page</u>
Tests of Hypotheses	80
Teacher Perceptions of Mainstreaming	80
Teacher Observations of the Principal's Behaviours	83
Teacher Perceptions of Mainstreaming and Teacher Observations of the Principal's Behaviours	86
V. DISCUSSION OF RESULTS	88
Teacher Perceptions of Mainstreaming	88
Teacher Observations of the Principal's Behaviours	89
Relationship Between Independent Variables	90
Tests of Hypotheses	91
Teacher Perceptions of Mainstreaming	91
Teacher Observations of the Principal's Behaviours	92
Teacher Perceptions of Mainstreaming and Teacher Observations of the Principal's Behaviours	95
VI. SUMMARY AND CONCLUSIONS	99
Review of the Study	99
Suggestions for Further Research	102
Contributions of the Study	103
Theoretical Contributions	103
The Implementation of Mainstreaming	104
References	106

Table of Contents cont'd.

	Page
APPENDICES	
A. Teacher Questionnaire	116
B. Pool of Potential Items to Measure Teacher Perceptions of Mainstreaming	129
C. Documents Given to Judges During Validation of Items for Questionnaire Related to Teacher Perceptions of Mainstreaming	136
D. Letter to Secretaries	145
E. Letter to Teachers	147
F. Means and Standard Deviations of Items Measuring Teacher Perceptions of Mainstreaming	149
G. Means and Standard Deviations of Items Measuring Principal Behaviours	151
H. Means and Standard Deviations for Semantic Differential Items	153
I. Correlations Between Items Measuring Teacher Perceptions and Attitudes Toward Mainstreaming	155
J. Correlations Between Items Measuring Principal Behaviours and Teacher Attitudes Toward Mainstreaming	158

List of Tables

	<u>Page</u>
Table 1 Factors and Dimensions Affecting Educational Change	30
Table 2 Rogers' (1983) Characteristics of an Innovation and Potential Items Measuring Each Dimension	54
Table 3 The Number of Agreements by Judges for Each of the 52 Potential Items	55
Table 4 Rogers' (1983) Characteristics of an Innovation and Selected Items Measuring Each Dimension	60
Table 5 Summary of Correlation Coefficients of Items of the PRCIQ During Three Field-testing Trials	62
Table 6 Dalin's (1978) Factors of Educational Change and Items Measuring Each Factor	65
Table 7 Distribution of Sample According to Age	70
Table 8 Distribution of Sample According to Grade Taught in School Year 1983-84 and 1984-85	70
Table 9 Distribution of Sample According to Length of Experience Mainstreaming	70
Table 10 Distribution of Sample According to Organizational Pattern of Mainstreaming	71
Table 11 Distribution of Sample According to Type of Exceptionality and Number of Students Mainstreamed in School Years 1983-84 and 1984-85	71
Table 12 Distribution of Sample According to Training in Special Education	72
Table 13 Alpha Coefficients for Dimensions of Teacher Perception	74
Table 14 Intercorrelations among Dimensions of Teacher Perceptions	75
Table 15 Kuder-Richardson (formula 20) Reliability Coefficients for Factors of Principal Behaviours	76
Table 16 Intercorrelations among Factors of Principal Behaviours	78

List of Tables cont'd.

	Page
Table 17 Correlations Between Teacher Perceptions and Principal Behaviours	79
Table 18 Correlations Between Teacher Perceptions of Mainstreaming and Attitudes Toward Mainstreaming	81
Table 19 Results of Stepwise Regression Using Eleven Dimensions Measuring Teacher Perceptions as Predictors of Attitudes Toward Mainstreaming	73
Table 20 Correlations of Factors Measuring Principal Behaviours and Teacher Attitudes Toward Mainstreaming	84
Table 21 Results of Stepwise Regression Using Four Factors of Principal Behaviours as Predictors of Attitudes Toward Mainstreaming	85
Table 22 Results of Stepwise Regression Using Eleven Dimensions Measuring Teacher Perceptions and Four Factors Measuring Principal Behaviours as Predictors of Attitudes Toward Mainstreaming	87

List of Figures	Page
Figure 1 Rogers' (1983) Model of Stages in the Innovation-Decision Process	16

CHAPTER I

INTRODUCTION

Mainstreaming, integration, and normalization are similar terms which generally refer to the act of bringing handicapped and non-handicapped people together in normal social settings. In Western society there has been a phasing-down of institutions or other special care facilities which deny handicapped people full access to normal participation in society. The approach now taken by governments towards the care of the handicapped is through the use of group homes and involvement in the community.

Legislation reflects current social values, and in North America the United States led the way toward normalization in the schools when PL94-142, The Education of All Handicapped Children Act, was passed in 1975. This law states that every handicapped child between the ages of 3 and 21 is entitled to a free and appropriate education (20 U.S.C., s. 1412). It also mandates that handicapped children be placed in the least restrictive environment. On a continuum of special education services, special schools and segregated classrooms are categorized as restrictive environments, whereas regular classrooms are considered the least restrictive environment for handicapped students.

Five years after PL94-142 was passed in the United States, the Ontario Legislative Assembly passed the Education Amendment Act, 1980 (S.O., 1980, c. 61). This Act which came into force in September, 1985, is popularly known

as Bill 82. It ensures that exceptional children in Ontario have available to them appropriate special programs and special education services without payment of fees by parents or guardians resident in Ontario. The use of the least restrictive environment is not mandated under Bill 82, but many Ontario Ministry of Education documents advise that for most exceptional children a significant part of their education program should take place in regular classrooms.

Although there are differences between PL94-142 and Bill 82 in that in the United States the use of the least restrictive environment is mandated, there are many similarities. Both pieces of legislation guarantee the right of school age children to a free and appropriate education. Moreover, the operationalization of both laws at the classroom level is relatively the same, in that interaction between teacher and exceptional students in regular classrooms is generally the same in both the United States and Ontario (Gearhart, 1980).

To be considered an exceptional child in Ontario, a pupil must be identified as such. The identification is done by members of an Identification, Placement and Review Committee (I.P.R.C.) which is established by the board of education. The committee identifies the child's exceptionality, places the child in an appropriate program, and reviews the placement annually. Frequently, a portion of the child's placement involves integration into a regular education classroom (Howarth, 1983; Keeton, 1982). This

practice is generally referred to as mainstreaming. For the purpose of this research, mainstreaming refers to the instruction of exceptional students in regular education classrooms for at least 25% of the day. Children identified as gifted are not included as exceptional in this study. For the remainder of the text the terms, "exceptional" and "handicapped", will be used interchangeably.

For many teachers, the practice of instructing handicapped students in regular education classes is perceived as new (Spodek, 1983; Stannard, 1976).

In the past, many students with special needs were neither identified as such nor were they provided with appropriate educational programs. Moreover, many students who were identified as exceptional were placed in segregated facilities, such as schools for physically disabled, blind, deaf, or mentally retarded. The current emphasis is to identify all children who have special needs and to provide suitable services in as normal a setting as possible. For many teachers, the fact that a child who has been identified as exceptional and spends a substantial portion of time in a regular class is a major innovation (Keeton, 1983; McLaughlin-Williams, 1983; Roubinek, 1978; Spodek, 1982; Stannard, 1976).

The innovation of mainstreaming has resulted not only in a change in the practice of educating exceptional children, but it has also altered the role of the classroom teacher. Prior to the passage of special education legislation, the

role of the classroom teacher regarding special education was merely to identify students who required special education services. Now, teachers not only identify students in need but are also requested to instruct exceptional students in regular education classrooms and to implement special programs for these students.

Teacher attitudes toward mainstreaming practices appear to be divergent. Studies in the area of teacher attitudes toward the innovation of mainstreaming have shown both positive (Harasymiw & Horne, 1976; Higg, 1975) and negative (Bradfield et al., 1973; Shotel, Iano & McGettigan, 1972) results.

As in the case of many planned educational innovations, teachers have concerns about the practical implications for implementation. They question their own involvement in terms of time used in searching out instructional resources and adapting them in their classrooms (Blank & White, 1984). They also have concerns related to the lack of teacher support, inadequate staffing and job descriptions, lack of goal clarification, and inefficient administration of the change effort (Eddy, 1977).

While teachers do have general concerns about innovations, they also have very real personal anxieties about implementation. Blank and White (1984) write that "the fact is that the teacher has to make a very personal decision to change what he or she is already doing for something new and untried" (p. 72). Frequently, an educational innovation represents a threat to a teacher's established program,

classroom routines, and style of working with children. Dodge et al. (1974) comment that it is these programmatic and behavioural routines that give stability and comfort to teachers. These personal concerns emphasize the notion that in any change effort "the human element is of prime importance in the acceptance or rejection of an innovation" (Blank & White, 1984, p. 73).

As mainstreaming can be considered an educational innovation (McLaughlin-Williams, 1983), it is understandable that regular education teachers have concerns about instructing handicapped children in their classrooms. For many teachers mainstreaming is perceived as a new and untried experience which can upset established classroom routines and styles of discipline (Hundert, 1983). It would therefore be of interest to examine these perceptions of mainstreaming as they contribute to teacher attitudes toward the practice of integrating exceptional students.

Sherif and Cantril (1946) emphasize the role of perceptual process in attitude formation and change. They write that the first and most fundamental phase of attitude acquisition is the perceptual phase. Perception, they report, is always involved since attitudes are derived from experience rather than being innate. It can therefore be assumed that teacher perceptions of the innovation of mainstreaming may be related to their attitudes towards integrating exceptional students in their classrooms. The relationship between teacher perceptions of mainstreaming

and teacher attitude toward the integration of handicapped students in regular education classrooms will be examined in this study.

There exists a second variable which also appears to be related to teacher attitudes toward educational innovations. From the literature on planned change it seems that organizational variables are related to user attitudes toward the innovation (Baldrige & Deal, 1975; Berman, Greenwood & McLaughlin, 1975; Gross, Giacquinta & Berstein, 1971; Herriott & Gross, 1979; Porter, 1980; Zaltman, Florio & Sikorski, 1977). Organizational variables include the availability of support services, the establishment of communication channels, the development of flexible scheduling to accommodate the need for meetings, and so on. Since in many schools, it is the principal who exercises considerable influence over organizational variables, his or her role in the successful implementation of educational innovations would seem crucial (Barnes, 1970; Chealer, 1975; Daft & Becker, 1978; Dalin, 1978). Indeed, Nicholson and Tracy (1982) suggest that in the implementation of an educational innovation, the principal's actions contribute to teacher attitudes toward the innovation. As mainstreaming is an educational innovation, it would be of interest to assess the relationship between the principal's actions during implementation and teacher attitudes toward mainstreaming. Information from such a study may be utilized by principals in a way that they adopt behaviours

which contribute positively toward teacher attitudes toward mainstreaming.

In Ontario there now exists a need to know more about teacher perceptions of mainstreaming and the principal's behaviour during the implementation of mainstreaming and their relationship to teacher attitudes toward mainstreaming. It is therefore the purpose of this research to examine the extent to which perceptions of mainstreaming as an innovation and principal behaviours contribute to teacher attitudes toward mainstreaming. Information gained from this study should facilitate the implementation of mainstreaming and should assist in furthering the description and definition of variables involved in the process of planned educational change.

This research report is arranged in four chapters. In Chapter Two the literature on mainstreaming is reviewed, and the research methodology is outlined in Chapter Three. The results of research are presented in Chapter Four and discussed in Chapter Five. This chapter is followed by a summary of the research and conclusions. References and appendices are also included.

CHAPTER II

REVIEW OF THE LITERATURE

The literature related to teacher perceptions of mainstreaming and the principal's role during implementation is examined in this chapter. In the first section teacher perceptions of mainstreaming are discussed in regard to mainstreaming as an innovation. Empirical studies on teacher perceptions of educational innovations are discussed. Rogers' (1983) model is explained and discussed in relation to the literature on mainstreaming. The second section relates to the principal's role in the implementation of mainstreaming. Dalin's (1978) factors of educational change are discussed, and support from the literature for each of the factors is presented. Finally, the purpose of the study is explained, the hypotheses are presented, and the limitations of the study are discussed.

Teacher Perceptions of Mainstreaming

Mainstreaming as an Innovation

Rogers (1983) defines an innovation as an idea, practice, or object that is perceived as new by an adopting individual or other adopting unit. It is stated by McLaughlin-Williams (1983) that the philosophy and practice of mainstreaming is an educational innovation. She argues that until the passage of special education legislation many teachers believed that exceptional students were best educated in "special" classrooms with "specially" designed teaching materials and methods, "specially" trained

teachers, and with a low pupil teacher ratio so that students might receive more individual attention. Stannard (1976) supports the notion that mainstreaming represents a new philosophical approach to the education of exceptional children when he writes, "we have been trained to exclude, not to accept and include" (p. 142).

For many teachers the actual practice of mainstreaming handicapped students into their classrooms also represents "an extremely tenuous and difficult, if not 'new' and impossible situation" (McLaughlin-Williams, 1983, p. 5).

Spodek (1982) furthers this point when he writes,

Teachers are being required to work with the handicapped, to plan for the handicapped, and to interact with the handicapped and their parents in ways they have never worked, planned or interacted with any children or parents before. In addition, they are being asked to work, plan and interact with a host of other professionals - special educators, school psychologists, social workers, physicians, and others - in ways they have never worked, planned, and interacted before (p. 295).

It appears that many regular education teachers perceive the philosophy and practice of mainstreaming as new, and therefore mainstreaming may be regarded as an educational innovation.

Empirical Studies on Teacher Perceptions of Educational Innovations

Introducing change into schools is difficult, and Lortie (1975) suggests that one variable, among others, which contributes to this difficulty is teacher perceptions of the educational innovation that is to be implemented. If teachers have negative perceptions of the innovation, it

will be implemented more slowly than if the innovation is perceived positively (Rogers, 1983). Kivlin and Fliegel (1967) caution that perceptions of any innovation should be measured and analyzed otherwise "unanticipated consequences which may retard programs of planned change" (p. 78) may develop. One of the most widely used theoretical frameworks for studying a person's perceptions of an innovation is the model of the innovation diffusion process developed by Rogers and Shoemaker (1971) and updated by Rogers (1983).

Using Rogers' and Shoemaker's (1971) five characteristics of an innovation (relative advantage, compatability, complexity, trialability, and observability) as a theoretical framework, Wyner (1974) measured the perceptions of 32 members of a school teaching staff regarding a resource centre in the school. A questionnaire consisting of 28 Likert-type items and 3 open-ended questions was developed to measure the five characteristics of innovations. Wyner (1974) concluded that teacher perceptions of the resource centre did correspond to the five perceived characteristics of an innovation as proposed by Rogers and Shoemaker (1971).

Hahn (1974) also employed the Rogers and Shoemaker (1971) model the theoretical framework for studying teacher perceptions of 22 social studies innovations. A questionnaire consisting of 28 Likert-type statements measuring the five perceived characteristics of innovations was given to 209 teachers. Hahn (1974) determined by factor

analysis that four factors were correlated with adoption of those innovations: (1) observability of valued outcomes, a redefinition of relative advantage which included sub areas such as (a) need for content, methods, approaches, and format, (b) increase in student interest in learning, (c) results which were observable to teachers, administrators and parents; (2) complexity; (3) feasibility; and (4) similarity.

The Rogers and Shoemaker (1971) model has also provided the theoretical framework for a study of perceptions in the area of mainstreaming. In this study by McLaughlin-Williams (1983), the five perceived characteristics of an innovation as described by Rogers and Shoemaker (1971), provided the conceptual framework for studying teacher perceptions of mainstreaming in relation to teacher attitude. A questionnaire based on these characteristics was mailed to 1,000 regular education teachers in the state of Michigan. The final sample consisted of 277 teachers. McLaughlin-Williams (1983) reports that all five characteristics are related to attitude towards mainstreaming, which was measured by teachers' stated willingness to continue the practice. She further states that of the five perceived characteristics, the set of best predictors of teacher attitude includes relative advantage, compatibility, and observability.

The Rogers and Shoemaker (1971) model of the innovation-decision process was updated in 1983, and the five characteristics were further described to include 11 dimensions. These dimensions presented in the updating represent a useful categorization for further study.

Rogers' (1983) Model of Stages in the Innovation-Decision Process

Rogers (1983) defines the innovation-decision process as the process through which an individual (or other decision-making unit) passes from first knowledge of an innovation to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision" (p. 3).

This process consists of a series of actions and choices over time through which an individual or an organization evaluates a new idea and decides whether or not to incorporate the new idea into ongoing practice. The five stages of Rogers' (1983) conceptualization are described below.

- I. Knowledge. This first stage occurs when an individual (or other decision-making unit) is exposed to the existence of the innovation and gains some understanding of how it functions. At this stage in the process, Rogers (1983) advances three characteristics of the decision-making unit: socio-economic characteristics, personality variables, and communication behaviour.
- II. Persuasion. Persuasion occurs when an individual (or other decision-making unit) forms a favourable or unfavourable attitude toward the innovation. There are five categories for the perceived characteristics (attributes) of innovations. These five categories provide part of the conceptual framework for this study.

1. Relative Advantage. Rogers (1983) writes that this category refers to the degree to which an innovation is perceived as better than the idea it supercedes. The degree of relative advantage may be measured in economic terms, but social-prestige factors, convenience, and satisfaction are also important components. Rogers (1983) generalizes when he writes that "the greater the perceived relative advantage of an innovation, the more rapid its rate of adoption" (p. 213).

2. Compatibility. The second attribute is defined as "the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters" (p. 223). An innovation can be compatible or incompatible with (a) socio-cultural values and beliefs, (b) previously introduced ideas, or (c) client needs for innovations. An idea that is not compatible with the prevalent values and norms of a social system will not be adopted as rapidly as an innovation that is compatible. Rogers (1983) concludes that the adoption of an incompatible innovation often requires the prior adoption of a new value system.

3. Complexity. Complexity is "the degree to which an innovation is perceived as difficult to understand and to use" (p. 231). Some innovations are readily understood by most members of a social system; others

are more complicated and will be adopted more slowly. Any new idea may be classified on the complexity-simplicity continuum. In general, "new ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to develop new skills and understandings" (Rogers, 1983, p. 231).

4. Trialability. Rogers (1983) writes that trialability is the degree to which an innovation may be experimented with on a limited basis. New ideas that can be tried gradually will generally be adopted more rapidly than innovations that are not divisible. An innovation that is trialable represents less uncertainty to the person who is considering it for adoption, as it is possible to learn by doing. Rogers (1983), however, concedes that "some innovations are more difficult to divide for trial than others" (p. 231).

5. Observability. The final characteristic of the innovation is defined as the degree to which the results of an innovation are visible to others. Rogers (1983) generalizes when he writes, "the easier it is for individuals to see the results of an innovation, the more likely they are to adopt" (p. 232). Such visibility stimulates peer discussion of a new idea.

III. Decision. The third stage of the innovation-decision process occurs when an individual (or other decision-making unit) engages in activities that lead to a choice to adopt or to reject the innovation.

IV. Implementation. Implementation occurs when an individual (or other decision-making unit) puts an innovation to use (Rogers, 1983).

V. Confirmation. The final stage in the innovation-decision process happens when an individual (or other decision-making unit) seeks reinforcement of an innovation-decision already made. The person may reverse this previous decision if exposed to conflicting messages about the innovation.

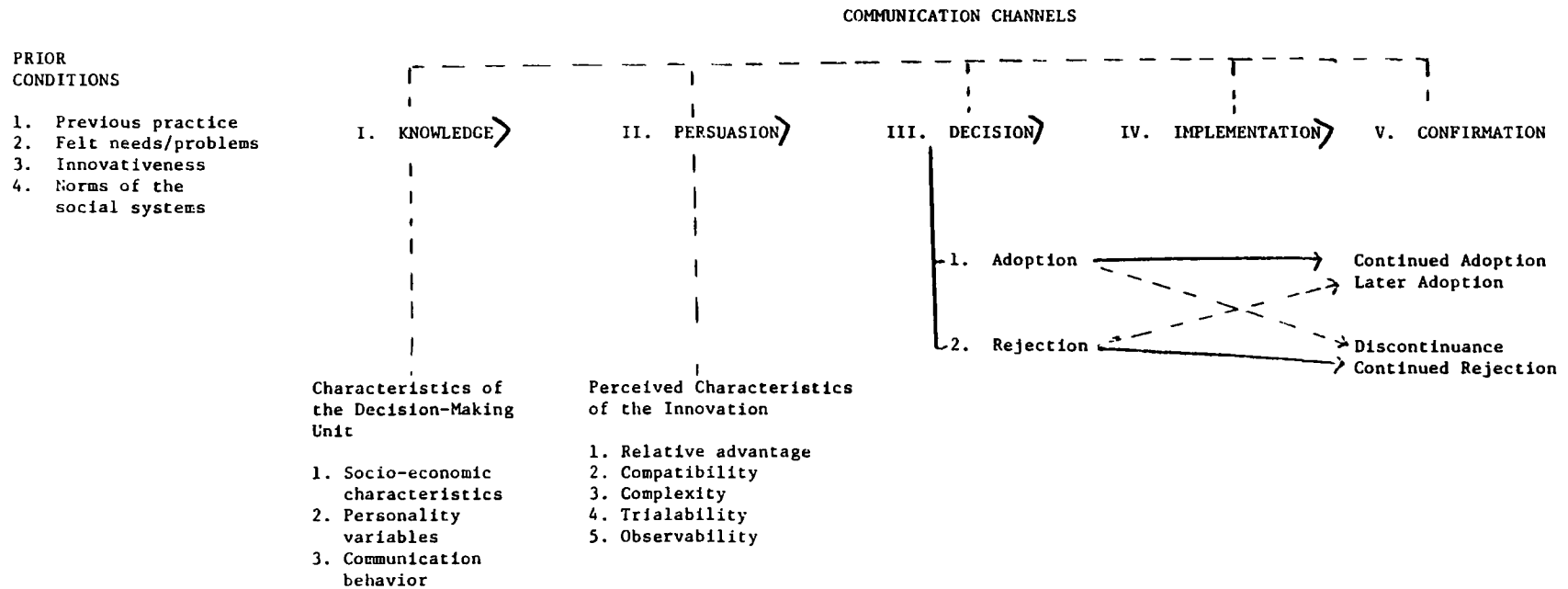
Figure 1 illustrates Rogers' (1983) model of stages in the innovation-decision process.

The model proposed by Rogers (1983) is different than that developed by Rogers and Shoemaker (1971) in which there are three major divisions: antecedents, processes, and consequences. In the Rogers (1983) model the divisions of antecedents and consequences have been eliminated while the element of processes has been retained. Rogers (1983) made two changes to this element. The 1983 paradigm has five activities included in the element of process: knowledge, persuasion, decision, implementation, and confirmation.

The second change in the element of processes is found in the activity of persuasion. Rogers (1983) made an important change in the characteristic of relative

Figure 1

Rogers' (1983) Model of Stages in the Innovation-Decision Process



advantage. Although the definition of relative advantage remains the same, the dimensions are different. Rogers and Shoemaker (1971) list the dimensions of relative advantage as follows: low initial cost, the degree of economic profitability, a decrease in comfort, a savings in time and effort, and the immediacy of the reward. Rogers (1983) modified the dimensions of relative advantage to include: economic factors, social prestige, convenience, and satisfaction. As McLaughlin-Williams (1983) found the dimension of immediacy of reward more highly correlated with observability than with relative advantage, it could be assumed that its removal would improve the discreteness between the characteristics of relative advantage and observability. It could also be assumed that this stronger theoretical framework would contribute to a more accurate description of teacher perceptions of mainstreaming.

Discussion of Rogers' (1983) Model in Relation to Mainstreaming

Although Rogers' and Shoemaker's (1971) model has been employed as a theoretical framework in empirical studies related to teacher perceptions of educational innovations, such as a resource centre and a social studies program, the model has not been widely tested in the area of mainstreaming. At present only the McLaughlin-Williams (1983) study utilizes the Rogers and Shoemaker (1971) framework as a means of examining teacher perceptions of mainstreaming, and no studies were found in the literature which utilize the Rogers' (1983) model. Therefore the literature presented to indicate the

appropriateness of Rogers' (1983) model as a theoretical framework to study teacher perceptions of mainstreaming is derived mainly from articles related to regular education teachers and mainstreaming.

Relative Advantage. Rogers (1983) writes that users must perceive four advantages of the innovation over previous practice: economic, social-prestige, convenience, and satisfaction. These four advantages are actually the four dimensions which further describe the perceived characteristics of relative advantage. In the field of education one of the economic variables a teacher controls is time and energy. Hundert (1981) writes that in planning for mainstreaming much time and energy is required by the classroom teacher and other professionals in preparing for the integration of handicapped students. Because of this expenditure of time and energy some teachers may view mainstreaming negatively. However, if teachers do see mainstreaming as a benefit to students, they may in turn perceive the innovation more positively.

The second dimension of relative advantage is social prestige, and Rogers (1983) suggests that by implementing an innovation a user may be perceived as having greater status than he/she previously held. Lortie (1975) writes that in the field of education, teachers obtain status from working with special groups of children. As handicapped students constitute a special group of children, it can therefore be assumed that a teacher who mainstreams such pupils may be perceived as having greater status than colleagues who do not.

Convenience is the third dimension of the characteristic of relative advantage. Rogers (1983) implies that the user must perceive the innovation as being more convenient than previous practice. In the literature it is reported that teachers must have specific training on how to adapt programs to meet the needs of exceptional children, and teachers must also be given constant on-site support in using these techniques in the classroom (Larrivee & Cook, 1979; Leyser & Abrams, 1984; Powers, 1983). It is assumed therefore that through training and support teachers can adapt classroom programs and routines to the extent that mainstreaming may be perceived as being more convenient than previous practice. On the other hand, it may be possible that teachers find the adaptation of established programs and routines burdensome. They therefore might perceive mainstreaming as less convenient than previous practice.

The fourth dimension of relative advantage is satisfaction, and Rogers (1983) suggests that it is important for the user to perceive greater satisfaction from using the innovation than from a previous practice. Lortie (1975) writes that teachers feel satisfaction when they are successful with their students in terms of academic and social achievement. Larrivee and Cook (1979) report in their research that teachers who feel successful mainstreaming exceptional students perceive great satisfaction, presumably a greater satisfaction from teaching than they previously felt.

Compatibility. According to Rogers (1983), it is important that users perceive the innovation as compatible with existing values, past experiences, and needs, which are the dimensions of the perceived characteristic of compatibility. Lortie (1975) writes that generally teachers subscribe to community and societal values. As the integration of handicapped people into society is generally accepted by people in North America, it may be assumed that teachers generally value the concept of mainstreaming. MacMillan et al. (1976) point out, however, that teachers must be convinced of the desirability of actually mainstreaming an exceptional student in their classrooms. Hundert (1981) suggests that when teachers are involved in planning meetings they come to believe that the regular classroom is a desirable placement for handicapped students. These researchers appear to recognize that teachers' personal and professional values must be congruous with those inherent in mainstreaming. It must also be recognized that regardless of involvement in planning meetings some teachers may perceive mainstreaming as incompatible with their professional beliefs about the placement of handicapped children.

The second dimension of the characteristic of compatibility is past experience. MacMillan et al. (1974) write that few regular classroom teachers have had coursework about handicapped children and have had little, if any, contact with them. Blair (1983) suggests that even recently trained teachers are inadequately prepared to instruct handicapped students in the regular classroom. It may therefore be assumed

that for many teachers mainstreaming may not be in keeping with past experience. This lack of experience may initially pose a problem. However, after reviewing the literature on inservice programs for teachers on mainstreaming, Donaldson (1980) suggests that information and training which incorporates direct contact with exceptional students may alleviate perceived problems related to insufficient previous experience.

Finally, Rogers (1983) writes that prior to adoption the user must perceive his/her needs as being compatible with the innovation. Lortie (1975) writes that teachers have psychic needs that are met when they have "reached" the students. Although some teachers can obtain "psychic" success when working with handicapped children, other teachers may be frustrated by their efforts at mainstreaming.

Complexity. Rogers (1983) writes that any innovation can be classified on the complexity-simplicity continuum. Hundert (1981) states that the innovation of mainstreaming is a "complex process that requires careful planning in areas critical to the success of implementation" (p. 11). While mainstreaming may be a complex process involving many activities over a period of time, it is not necessarily difficult to understand related policies. It is also suggested that with constant support in implementation, teachers should not perceive much difficulty in the day-to-day activities of mainstreaming (Hundert, 1981; Larrivee & Cook, 1979).

Trialability. Rogers (1983) reports that when the user perceives that an innovation may be tried on a limited basis, it will be adopted more rapidly than an innovation that can not. It appears that mainstreaming may be tried by teachers on a limited basis, which seems to be the preferred method of initial implementation. Grosenick (1975) writes that a gradual easing of the exceptional student into the regular classroom is preferred to an abrupt change. Hundert (1981) furthers this point when he makes the specific recommendation that the exceptional student should attend the regular education class for one period a day. As the child and the teacher seem more comfortable, the time spent in the regular classroom may be progressively extended. It can therefore be assumed that if this plan is followed teachers may perceive that they may try mainstreaming initially on a limited basis.

Observability. Innovations are adopted more rapidly when users perceive that the effects of implementing the innovation are observable to others (Rogers, 1983). In regard to the innovation of mainstreaming, Anderson et al. (1980) state that there is a "need for teachers to see progress in the handicapped pupil" (p. 40). It is also suggested by Clark (1978) that one way these changes can be monitored and demonstrated to others is through continuous evaluation of the social and academic progress of the handicapped student. Hundert (1981) supports this notion and writes that when a school adopts a planned approach to

mainstreaming, evidence that the exceptional child is adjusting should be perceived by those involved in the process.

To summarize, Rogers' (1983) model offers a comprehensive set of dimensions by which people perceive innovations, including the innovation of mainstreaming. While there exist in the literature no emirical studies utilizing Rogers' (1983) model as a theoretical framework for the examination of teachers' perceptions of educational innovations, and in particular mainstreaming, articles which indicate the appropriateness of Rogers' (1983) dimensions have been presented. It may therefore be assumed that the use of these dimensions should provide a useful framework to study the relationship between teacher perceptions of mainstreaming and teacher attitudes toward that innovation.

The Principal's Role in the Implementation of Mainstreaming

The literature on effective schools indicates that the principal plays an important role in developing a "successful" school (Bossert et al., 1978; Brookover & Lezotte, 1979; Klopff et al., 1982; Leithwood & Montgomery, 1982; Pendergrass & Wood, 1979). Edmonds (1979) writes that

One of the most tangible and indispensable characteristics of effective schools is strong administrative leadership, without which the disparate elements of good schooling can neither be brought together nor kept together (p. 32).

If the principal is such an important element of effective schools, what then are the role behaviours that he or she should demonstrate? Rogus (1983) summarizes those

behaviours, and they are as follows:

- defines goals.
- develops a consensus around both school goals and behavioural expectations.
- sets high expectations for teachers and students.
- are strongly involved with and are knowledgeable of the instructional program.
- are perceived by teachers as being knowledgeable, effective managers.

Leithwood and Montgomery (1982) add that in effective schools principals play an important role in the implementation of educational change. Berman and McLaughlin (1977) provide support for the relationship between principal support and successful implementation of educational change. In the Rand study of Federal Programs Supporting Educational Change results of several different types of federally sponsored educational programs in almost 300 school districts in the United States were examined. In this study Berman and McLaughlin (1977) report that "projects having the active support of the principal were most likely to fare well" (p. 124). This view is also supported by Dyer (1984) who views the principal as a catalyst for change and states that "one of the crucial factors in adopting any innovation is the school principal" (p. 33). It therefore seems that the principal's role is a pivotal one in the development of an effective school.

One of the elements of the principal's role involves the management of special education services at the school level. For many principals coordinating the delivery of

special education services is a new responsibility within the context of their administrative and instructional roles (Johnson & Gold, 1980; Winborne, 1981). Specific elements of this new responsibility are discussed below.

Johnson and Gold (1980) write that the school principal must ensure that every exceptional student is identified and has prepared for him or her an educational plan that meets his or her unique needs. In addition, the authors state that the principal must also ensure that these individualized programs are evaluated on a regular basis. The results of a study by Raske (1979) suggest this view. He asked principals in 29 school districts in Michigan to indicate the amount of time they spent on specific tasks related to special education. The results demonstrate that nearly 35% of the principal's time spent managing special education is devoted to participating on individual education planning (IEP) meetings and filling out special education forms. Lietz and Towle (1979) also studied the role of the school principal in the area of special education. They asked officers of large-city schools to rank the responsibilities of the school principal. Of 27 potential functions respondents indicated that the three activities related to special education in which the principal spends most time are evaluating staff, providing counseling services to students, and coordinating due process procedures. In addition to these functions Johnson and Gold (1980) write that the principal should provide

support for teachers involved in mainstreaming handicapped students.

As stated previously mainstreaming may be regarded as an educational innovation, and the principal appears to play an important role in the successful implementation of mainstreaming (Clarke, 1984; Gage, 1980; Johnson & Gold, 1980). The effectiveness of mainstreaming has been evaluated by measuring student achievement and teacher attitude. As the present research involves teacher attitude toward mainstreaming those studies reporting on a relationship between principal behaviours and teacher attitudes are discussed in the following.

In the study by Guerin and Szatlocky (1974) in which teachers showed positive attitudes toward integrating educable mentally retarded students, the researchers report that a critical factor in the creation and maintenance of the program was an administration with strong positive views toward the integrated programs. Guerin and Szatlocky (1974) conclude that "the results suggest that the support was important, perhaps essential to the success of the program" (p. 179). Larrivee and Cook (1979) support this conclusion when they report that administrative support is related to teacher perceptions of the success of mainstreaming.

If the principal's behaviours are related to the success of mainstreaming, it then becomes important to examine the characteristics and/or actions a principal should exhibit to teachers during the implementation of mainstreaming. In a

study on the principal's attitudes and knowledge about handicapped children, Cline (1981) refers to the principal as a "gatekeeper" and cautions that if mainstreaming is to succeed, the principal must be knowledgeable concerning the educational needs of the handicapped. Clarke (1984) agrees that the principal should be knowledgeable about special education and specifies the type of knowledge he or she should possess. The principal should be familiar with such "mundane topics as leadership, staffing models of integration, legal issues, and curriculum and program features (including evaluation of the types of resource and supportive services)" (p. 250).

A study done by Sivage (1980) provides information on the role of the principal during implementation of mainstreaming. Using a conceptual framework of organizational change and innovation (Arends & Arends, 1978; Gross, Giacuinta & Berstein, 1971; Katz & Kahn, 1967; Rogers & Shoemaker, 1971), an investigation was conducted to determine the relationship of selected organizational characteristics and effective mainstreaming in elementary schools. Questionnaires were sent to 150 randomly selected Oregon elementary schools. Principals were asked to respond to items and return the completed questionnaire to the researcher. The final sample consisted of 99 schools. Sivage (1980) found that effective mainstreaming is related to specific administrator characteristics. She reports that the principal should be an advocate of mainstreaming and

take an active role in the special education program in the school. He or she should also serve as translator and arbitrator between regular and special educators. On the basis of her research, Sivage (1980) draws some conclusions regarding school principals in the implementation of mainstreaming:

In short, they serve as facilitators and innovators of major organizational changes in structure, materials, role relationships, knowledge and attitudes of organizational members (p. 16).

Although the Sivage (1980) study provides valuable information on the role of the principal, it appears in the literature that certain exogenous variables, not included in the Sivage (1980) study, may also form part of the principal's role in mainstreaming. The principal, it seems, plays a liaison role between the school and the community. Rocha (1983) writes that principals must communicate and cooperate with parents of handicapped children more closely than ever before.

In addition, Dyer (1984) states that teacher unions may inhibit their members from accepting change. Zey (1981) reinforces this view of union power when she questions the professional consequences of non-acceptance of the union position against mainstreaming, "Am I embarking on a dangerous course of action, perhaps risking my own job or future services for special education students?" (p. 11). It would seem reasonable that a principal implementing mainstreaming should at least be aware of the extent of

teacher union support for this innovation.

Many behaviours within and outside the school are identified as being positively related to teacher attitudes toward implementing change. At present there exists a paucity of studies in the literature in which a theoretical framework incorporating the multitude of variables related to the principal's role behaviours during the implementation of mainstreaming has been employed. Therefore, if an appropriate framework could be found, it might prove useful as a theoretical base from which to study the principal's role in implementing mainstreaming.

A possible conceptual framework is Dalin's (1978) factors of educational change. These factors include endogenous and exogenous variables which may provide the basis for a thorough investigation of the principal's role in mainstreaming. Dalin's (1978) framework for educational change is described below.

Dalin's (1978) Factors of Educational Change

Dalin (1978) defines educational change as a deliberate attempt to improve practice in relation to desired objectives, and he identifies four factors that affect educational change. These factors are the educational setting, the environment, the innovation, and the change strategy. Dalin (1978) describes and differentiates the factors by means of the dimensions associated with each of the four factors. Table 1 shows Dalin's (1978) factors and dimensions affecting educational change.

Table 1
Factors and Dimensions Affecting Educational Change
(Dalin, 1978)

I. The Educational Setting

1. Financing
2. Decision-making
3. Support Structure
4. Size
5. School Level

II. The Environment

1. Economy
2. Political Stability
3. Social Expectations
4. Labour Market
5. Relation to Other Sectors
6. Unions
7. Technological Change

III. The Innovation

1. Technological Change
2. Behavioural Change
3. Organizational Change
4. Social Change
5. Centrality
6. Complexity
7. Nature and Amount of Change
8. Goal-fit
9. Goal Stability

IV. The Change Strategy

1. Change Strategy Norms
2. Decision-making for Change
3. Linkage

I. The Educational Setting. Included in the factor of the educational setting are five dimensions: financing, decision-making, support structure, size, and school level. The dimensions related to the factor of educational setting generally refer to the organization and leadership at the individual school.

1. Financing. Dalin (1978) states that the relationship between principles of financing (including incentive structures) and the goals of the innovation is an important indicator of success. This dimension refers to how the funds for implementation are used at the school level in terms of incentives for teachers and the attainment of resources. In regard to mainstreaming Finkinbinder (1981) states that essential to the principal's training is a knowledge of budgeting and finance. Sivage (1980) goes on to indicate that principals should make use of the school's financial resources to provide adequate service for the handicapped in public schools.

2. Decision-making. This dimension refers to the evidence to prove that the closer decisions about implementation are to actual practice, the better the chances are for desired changes to take place. This is particularly true for changes demanding behaviour and organizational change" (Dalin, 1978, p. 78).

Teachers and principals are users of innovations, and they should be involved in the decision-making process of how the innovation is to be implemented in the

school. In the implementation of mainstreaming at the school level it is the principal who is responsible for developing decision-making strategies (Clarke, 1984). He or she should involve both regular education teachers and specialists in the decision-making process as it relates to the implementation of mainstreaming (Barreth et al., 1983; Gage, 1979).

3. Support Structure. This dimension relates to the inservice support from various agencies that can be given to teachers implementing an innovation. At the school level, inservice sessions prior to implementation and during the period of implementation should be given to users of an innovation. In regard to mainstreaming, Weatherly and Lipsky (1977) write that "training classroom teachers to be better prepared and more confident in handling children with special needs is particularly important" (p.195). The principal should provide release time for teachers to attend special conferences, inservice sessions and specific workshops (Johnson & Gold, 1980).

4. Size. Dalin (1978) writes that the size of a system tends to affect change as well. He argues that both large and small systems have advantages and disadvantages in relation to various tasks and therefore to various change efforts. Within an individual school, the principal should be aware of the extent to which other schools in the system will adapt to meet the

requirements of the innovation. Sivage (1980) writes that during the implementation of mainstreaming principals should recognize that the size of a school determines resource provision and program flexibility. She goes on to suggest that principals should be aware of the extent to which other schools meet and exceed the requirements of special education legislation.

5. School Level. This dimension relates to the leadership strategies employed by the building administrator in terms of human relations. For example, a principal would ensure that staff morale is relatively high during the period of implementation. During the implementation of mainstreaming the principal should exhibit positive attitudes toward special education programs. Gage (1979) writes that the principal's display of positive feelings results in good staff morale which helps to overcome many of the "rough" spots during the implementation of mainstreaming.

II. The Environment. Dalin (1978) includes seven dimensions in the factor of the environment. The dimensions of this factor are the economy, political stability, social expectations, labour market, relation to other sectors, unions, and technological change. The dimensions of the environment relate to those variables affecting implementation which are outside the individual school. Although seldom mentioned in the literature, exogenous variables as related to principal behaviours when implementing mainstreaming may contribute significantly to teacher attitudes toward integration.

1. Economy. This dimension refers to the broad funding of the implementation of the innovation. Dalin (1978) writes that "the relative stability of the economy does seem to have a more immediate impact on educational change" (P. 80). At the school level, the principal should be aware of the amount of funds the board or ministry is allocating towards the implementation of the innovation. Weatherly and Lipsky (1977) examined the implementation of Chapter 766, the innovative state special education law in Massachusetts. One of their findings was that school administrators were caught between the strict requirements of the law and the ambiguous level of state funding. Implied by this result is that the school principal should be aware of the priorities of the funding body and the level of funding over time in relation to the implementation of special education legislation.

2. Political Stability. Dalin (1978) writes that "political stability over time is a necessary condition for any major reform effort to succeed" (p. 80). Because educational reforms generally take many years to implement fully, a consistent policy regarding the innovation is necessary. The principal should be aware that changes in governmental policy can alter or terminate the use of an innovation. Implied by the findings of Weatherly and Lipsky (1977)

is that the principal should be aware that governing bodies may alter the implementation plan for special education legislation.

3. Social Expectations. Dalin (1978) contends that "social expectations are a powerful energy-mobilizer for educational reform" (p. 81). He states that the feminist movement is a case in point because over a relatively short period of time females have come to expect equal treatment. Although administrators in schools have little control over social expectations, principals should be aware of the degree of support the community has for any particular innovation. In regard to mainstreaming, the principal should be aware of the extent and strength of parent support for the implementation of special education legislation in the school (Rocha, 1983; Weatherly & Lipsky, 1977).

4. Labour Market. Dalin (1978) states that changes in the nature of the labour market have an impact on the quantity and quality of programs in education. Dalin (1978) goes on to comment that "with the declining economy possibly the greatest concern today is that so many well educated young men and women are not guaranteed an interesting job" (p. 81). It would be expected that the principal of a school is aware of the extent to which an innovation prepares students for future labour markets. Described by Hanover (1983) is a program in California in which students with moderate mental

handicaps receive on-the-job-training. Implied by Hanover (1983) is that the principal should be aware of the extent to which training experiences prepare handicapped students for a role in the labour market.

5. Relation to Other Sectors. "The established education sector is not the only one responsible for education" (Dalín, 1978, p. 81). Dalín (1978) goes on to write that co-ordination among sectors (for example, industry, agriculture, and military) is important, but is very difficult to achieve. The principal and teachers should be aware of the extent to which people from other sectors are involved in the development of innovations. In relation to mainstreaming the principal should be aware of the extent to which the development of special education legislation has been influenced by parent groups which may be advocating for the rights of a specific group of exceptional students (Marsh & Podemski, 1982).

6. Unions. The teaching profession is becoming increasingly unionized and in some countries is taking an active part in negotiations about conditions for educational change. This phenomenon is leading to an increased realization that "the process of change will depend on new and better relations between unions and management" (Dalín, 1978, p. 82). The effect of increased unionization suggests that administrators should solicit support for an innovation from teachers'

federations and unions. Suggested by Zey (1981) is that the principal be aware of the extent to which teacher unions support the implementation of mainstreaming. She implies that the administrator should attempt to acquire support for mainstreaming among members of teachers' unions.

7. Technological Change. As a component of the environment factor, technological change refers to the use of technological innovations, such as the computer. Dalin (1978) states that new technology has an impact on various components of society and that systems develop a critical analysis of the effects of new technology on the functioning of education. The implication is that principals promote and encourage among the teaching staff the use of technological innovations, for example, computers as management tools in mainstreaming. At the same time, administrators should be aware of the possible effects of these technological innovations on the organization. In regard to mainstreaming, the principal should have a general knowledge of the type of equipment some students require in order to be mainstreamed, and he or she should make teachers feel comfortable with this equipment (Alson, 1977).

III. The Innovation. Included in the factor of the innovation are nine dimensions which are as follows: technological change, behavioural change, organizational change, social change, centrality, complexity, nature and amount of change, goal-fit, and goal stability. The

dimensions of the innovation factor generally relate to the innovation in terms of its perceived complexity, rationale, procedures and effects within the receiving organization.

1. Technological Change. In this factor technological change is not related to the introduction of new technological advancements but rather to their effect on the educational system. Dalin (1978) makes specific reference to changes in methods and means of instruction. Within an individual school it should be the task of the principal to ensure that the teachers possess the necessary new teaching skills to implement an innovation. Johnson and Gold (1980) write that during implementation principals should provide "inservice training covering essential special education skills relevant to mainstreaming" (p. 34). Sivage (1980) goes on to indicate that in schools where mainstreaming has been implemented successfully, the principal has ensured that teachers have the necessary new knowledge and skills to implement the legislation.

2. Behavioural Change. Dalin (1978) states that "many educational changes demand changes in the behaviour of teachers, students, administrators, parents and also other groups involved" (p. 84). It is also suggested in the dimension of behavioural change that people involved in implementation clearly know the roles different individuals play in the process. When implementing an innovation in a school, the principal should ensure that roles and required changes in behaviour are clearly

understood and can be made. Sivage (1980) reports that role clarity is a variable contributing to the success of mainstreaming. During the implementation of mainstreaming the principal should also ensure that teachers and specialists understand how their roles may change (Sivage, 1980; Weatherly & Lipsky, 1977).

3. Organizational Change. Many change efforts in education assume some degree of organizational change which may imply "changes in structure, decision-making, human interaction roles and functions and the technology of the organization" (Dalín, 1978, p. 84). The implication of this dimension is that during the implementation process the principal should ensure that the organization of the school is flexible enough to accommodate the requirements of the innovation. When implementing mainstreaming the principal should be willing to rearrange resources and any other organizational elements in order to assist teachers in integrating handicapped students into their classrooms (Nevin et al., 1983; Sivage, 1983).

4. Social Change. Dalín (1978) defines social change as "the redistribution of power, resources and opportunities within the system" (p. 84). It is possible to facilitate social change within the educational sector by internal redistribution of resources and opportunity. The implication of this dimension is that when implementing innovations

administrators should make it known to teachers that they may benefit personally from implementation. Suggested by Browder (1983), Dardig (1981), and Weatherly and Lipsky (1977) is that the principal should inform regular education teachers who integrate that they may receive rewards for their mainstreaming activities.

5. Centrality. Centrality is defined by Dalin (1978) as "the extent to which an innovation requires change in the goals, norms or patterns of behaviour that are perceived to be core or central to the institutional setting" (p. 21). He goes on to write that research has shown that the importance which the administration attaches to an innovation provides a "signal" to project participants. Involvement of high level administrators in an educational system increases the chances of implementation, but in no way guarantees it. Within an individual school, the principal should be involved in and committed to the project, and he or she should communicate to the teachers the support of superintendents and trustees. In relation to mainstreaming, "the principal, however, provides the impetus for determining whether special education programs for handicapped children will be accepted by regular education teachers" (Johnson & Gold, 1980, p. 34). This point is furthered by Gage (1979) when he writes that all administrators for a particular school

district should be committed to the implementation of special education and that each principal should convey this support to his or her teachers.

6. Complexity. Complexity refers to how complicated the innovation is perceived to be by users in terms of the rationale, goals, objectives, procedures, and practices. In this dimension Dalin (1978) makes the point that the innovation must be adaptable to meet the specific needs of some teachers. The principal's task is to ensure that the concepts and details related to an innovation are presented clearly and simply to the teachers. Dalin (1978) also suggests the use of frequent meetings in which to assess goals and to plan for implementation. Effective mainstreaming programs are built on teachers' clear understanding of the goals of special education legislation (Sivage, 1980). Gage (1979) goes on to write that "the principal must make certain that all personnel involved in the mainstreaming process are well informed of its goals" (p. 34).

7. Nature and Amount of Change. "The amount of change assumed by an innovation refers to the comprehensiveness or significance of the change effort for the activities of an individual" (Dalin, 1978, p. 85). Dalin (1978) writes that the amount of learning and "unlearning" necessary for the individual teacher is critical and that strategies which permit

individual development and learning are critical to successful implementation. The implication is that the principal should attempt to address the concerns of individual teachers during the implementation process. Gage (1979) writes that the principal should "become attuned to teacher anxiety regarding special education students" (p. 57).

8. Goal-fit. Goal-fit or consonance is defined by Dalin (1978) as "a degree of fit between the goals, values and practices of an innovation and those of the adopting individuals" (p. 86). He goes on to write that project participants will work to implement an innovation if their values are congruent with the values and goals of the reform in general. The administrator whose task it is to implement an innovation should be aware of the degree of compatibility of the rationale of an innovation and the values and goals of the teachers. In the case of mainstreaming, the principal should be aware of the extent to which the philosophy of special education legislation is congruent with the professional values of teachers (Gage, 1979; Sivage, 1980).

9. Goal Stability. Goal stability refers to "the extent to which the educational leadership which is responsible for the innovative activities is committed to the innovation over time" (Dalin, 1978, p. 87).

Key people should remain in the organization during the period of implementation in order to provide a continuity of goals. In the literature the principal is identified as a key figure and should remain in a particular school throughout the implementation of an innovation. Implied by Weatherly and Lipsky (1977) is that during the implementation of special education legislation, the principal should remain at the school to ensure continuity of leadership and approach.

IV. The Change Strategy. Dalin (1978) includes the dimensions of change strategy norms, decision-making for change, and linkage in the factor of the change strategy. The dimensions of this factor refer to attitudes toward change, a perceived need for the innovation, and communication channels that are established during implementation.

1. Change Strategy Norms. This dimension refers to attitudes people in various institutions have about innovations and their abilities to adapt to meet the requirements of the innovation. Dalin (1978) writes that "the degree of flexibility and technical capacity in incorporating different change strategies becomes an important characteristic of a system with a high capacity for change" (p. 87). The implication for the administrator is that he or she should exhibit a positive attitude towards change and that the ability

to adapt to different change situations is a factor in determining the effectiveness of implementation.

Implicit in the literature on the principal's role in implementing mainstreaming is that he or she should regard change positively (Gage, 1979; Johnson & Gold, 1980; Norton & Zeilinger, 1983; Sivage, 1980; Weatherly & Lipsky, 1977).

2. Decision-making for change. Decision-making for change refers to the initiator of the change. Dalin (1978) states that when decisions about innovations are closely integrated with the established structure, the result tends to be a relatively slow process, but one which has some influence on the system at large. Principals and teachers should perceive a relative advantage to the innovation over existing practices and participate in the development of the innovation. In relation to mainstreaming the principal should participate on special education planning committees (Norton & Zeilinger, 1983), and Hundert (1981) suggests that he or she should also encourage teachers to participate on such committees.

3. Linkage. Linkage is a process whereby resource people and users communicate with one another about the innovation. Dalin (1978) states that the capacity of an organization to change is dependent on the quality and quantity of its communication links. When implementing an innovation within a school, the

principal should attempt to link the teachers with coordinator/consultants, developers of the innovation and any other appropriate resource people. In the literature on mainstreaming it is suggested that conflict may arise between regular education teachers and specialists over objectives and roles. It is further suggested by Norton and Zeilinger (1983), Sivage (1980), and Weatherly and Lipsky (1977) that the principal should attempt to reduce the potential conflict between these two groups by arranging opportunities for them to meet and discuss common problems.

In sum, Dalin's (1978) model was selected for use in this study because it includes exogenous variables which are not often found in models related to administrative behaviour. This model, however, has not been widely tested in North America, particularly it relates to the role of the principal in the implementation of educational change. Dalin's (1978) model may be applied to the principal's role during the implementation of mainstreaming, as it has been demonstrated from the review of the literature that each factor may be linked with success in mainstreaming. Moreover, for the factor of the innovation there exists the most support, which would lead one to speculate that this factor as related to the role behaviours of the principal may be the strongest predictor of teacher attitudes toward mainstreaming. Dalin's (1978) model therefore should

provide a useful framework for examining the relationship between teacher observations of the principal's behaviours and teacher attitudes toward mainstreaming.

Summary

In this chapter it was shown that positive teacher attitudes were related to the successful implementation of the innovation of mainstreaming. In the literature two variables appeared to be related to attitudes: teacher perceptions of the innovation of mainstreaming and a sense of organizational support, in this case as evidenced by principal behaviours. In the study of teacher perceptions of mainstreaming McLaughlin-Williams (1983) employed the Rogers and Shoemaker (1971) characteristics of an innovation as a conceptual framework. The updated Rogers (1983) characteristics were shown to incorporate elements that could be found in the studies on mainstreaming, and therefore this updated framework was presented as a useful tool for the examination of teacher perceptions of mainstreaming.

In the studies related to the second variable, principal's behaviours when implementing mainstreaming, specific elements were found to be related to teacher attitudes. However, no studies were found which employed a conceptual framework in the examination of the principal's behaviours during mainstreaming. Dalin's (1978) factors related to educational change were presented as a possible conceptual framework which incorporated all the elements discussed in previous studies, as well as additional

variables. Support for dimensions of Dalin's (1978) factors was demonstrated from studies and articles in the literature on the principal's behaviour during the implementation of mainstreaming. Therefore, Dalin's (1978) factors related to educational change were advanced as a useful framework for the study of the principal's behaviours.

Purpose of the Study

It is the purpose of this study to examine the relationship of teacher perceptions of mainstreaming and the principal's role behaviours with attitudes of regular education teachers toward mainstreaming. Specifically, the 11 dimensions of Rogers' (1983) perceived characteristics of an innovation and the four factors of Dalin's (1978) factors related to educational change are assessed as predictors of attitudes toward mainstreaming.

This present study replicates the McLaughlin-Williams (1983) research in that teacher perceptions of mainstreaming are studied, and their contribution to attitudes toward mainstreaming are evaluated. This study also extends the work done by McLaughlin-Williams (1983) in that the importance of the variable of the principal's behaviours during implementation is examined in relation to teacher attitudes toward mainstreaming.

Hypotheses

The general hypothesis to be tested in this study is that teacher perceptions of mainstreaming and teacher observations of the principal's behaviour are related to teacher attitudes toward mainstreaming. Two specific hypotheses will also be tested. It is predicted that each of Rogers' (1983) eleven dimensions of perceived characteristics of an innovation as applied to mainstreaming is related to teacher attitudes toward mainstreaming. It is further hypothesized that each of Dalin's (1978) four factors of educational change as applied to the principal's role behaviours during the implementation of mainstreaming is also related to teacher attitudes toward mainstreaming.

Limitations of the Study

The limitations of this study are described below.

1. The sample consists of teachers who have mainstreamed exceptional children for 25% of the day in three large boards of education in eastern Ontario. It is believed that the sample is composed of the majority of all teachers who have mainstreamed exceptional students. However, there is no certainty that these teachers are representative of all teachers who have mainstreamed.
2. Teacher perceptions of mainstreaming are limited by constraints imposed by Rogers' (1983) theory. Rogers' (1983) model forces teachers to evaluate an innovation according to a limited set of eleven dimensions.

3. Measures of the principal's behaviour are obtained by teachers' observations. There may be a number of instances where teachers have been unable to observe the principal's behaviours, particularly with reference to exogenous variables.

Presented in this chapter has been a review of the literature relative to teacher perceptions of mainstreaming and the principal's role in the implementation of mainstreaming leading to the purpose and hypotheses for this study. Limitations of the study were also described. In the next chapter the methodology is outlined.

CHAPTER III

RESEARCH METHODOLOGY

This chapter consists of four sections. In sections one, two and three are described the sample, the instruments, and the data collection procedures respectively. Data analysis techniques are described in section four.

Sample

The sample consisted of English-speaking teachers from selected K-6 schools of three large boards of education in eastern Ontario. Using the alphabetized lists of schools provided by the three boards of education, every second K-6 school was selected. This procedure resulted in a total sample of 47 schools and approximately 600 potential respondents. The sample was further refined by including only those teachers who had experienced integrating exceptional students according to the definition of this study, that is, at least, 25% of the day.

Instrumentation

The instrumentation for this study was a four part teacher questionnaire consisting of 95 items (see Appendix A). Each section of the questionnaire is described below.

Part I

This section of the questionnaire consisted of 12 items designed to elicit demographic information, to screen respondents, and to measure changes in attitude towards mainstreaming (see Appendix A). To further refine the sample, teachers were asked to respond to an item in which they were to

indicate if they had experienced mainstreaming exceptional students. For this item a simple "Yes/No" response format was used. Only those who had experience were included in the study.

Items nine and ten were measures of attitude change towards mainstreaming. For item #9 teachers were asked to indicate their attitude before trying mainstreaming as "Negative", "Neutral" or "Positive". Using the same response format, for item #10 teachers were requested to indicate their attitude towards mainstreaming after they had tried it.

Items in Part I were read for clarity and appropriateness by 10 teachers taking an Ontario Ministry of Education special education course at the University of Ottawa. Some confusion with respect to response formats and wording was noted, and changes were made. The items in this section were read again for clarity and appropriateness by a teacher with a local board of education and a professor who is an expert in the area of special education at the University of Ottawa. No further changes were made in the wording of items in Part I of the teacher questionnaire.

Part II It was originally intended to use the questionnaire employed by McLaughlin-Williams (1983) in measuring teacher perceptions of mainstreaming. That instrument, however, was based on Rogers' and Shoemaker's (1971) five characteristics of an innovation, which were somewhat different than the conceptual framework utilized in this study. In addition, McLaughlin-Williams (1983) assessed teacher perceptions of the relative importance of the five characteristics of the innovation of

mainstreaming, and it was not surprising that relative advantage and compatibility, with the greatest number of items measuring those characteristics were rated as the most significant. Due to changes in theoretical framework and potential problems in design, it appeared that the questionnaire used by McLaughlin-Williams (1983) required some adaptation. The revised instrument measured Rogers' (1983) characteristics, and instead of assessing the relative importance of characteristics, the adapted questionnaire assessed the relative importance of dimensions of characteristics. It seemed that this design would provide better information on teacher perceptions, and as each dimension would have an equal number of items measuring it, more accurate information on teacher perceptions could also be provided.

Using the conceptual framework of Rogers' (1983) dimensions of an innovation, 52 potential items were written which were representative of the dimensions of the characteristics (see Appendix B). At least four items for each of the 11 dimensions were generated, and many of these items were based on those found in the instrument used by McLaughlin-Williams (1983). The items were written such that they were suitable for a 5 point Likert-type response format ranging from "Strongly Agree" to "Strongly Disagree". A professor of curriculum at the University of Ottawa then read the potential items for representativeness of Rogers' (1983) dimensions of an innovation. The 52 potential items were also read for clarity and appropriateness by a teacher with a board of education in eastern Ontario and a professor with the University of Ottawa in the area of special education. The

potential items were then randomly arranged in the order that they would appear on the content validation sheets.

A group of fifteen graduate students enrolled in a curriculum course at the University of Ottawa acted as judges during the content validation procedures. These students identified themselves as teachers and consultants with boards of education and community colleges in the eastern Ontario region. Each judge was given a document consisting of four parts: a description of Rogers' (1983) characteristics of an innovation, instructions, item sheets, and a response sheet (see Appendix C). The researcher made a brief presentation on Rogers' (1983) characteristics and dimensions and asked the students, using the written description of the conceptualization for reference, to categorize each of the 52 items into its appropriate characteristic and dimension. The researcher remained in the room to provide assistance to any students who required clarification.

Potential items written to measure each characteristic of an innovation are shown in Table 2. A decision rule was made whereby to qualify as a measure of Rogers' (1983) dimensions, the item must have been classified correctly (as intended by the researcher) by at least eight of the 15 judges. The following dimensions (see Table 3) had at least three items which qualified as a valid measure: economic, social prestige, existing values, past experience, difficult to do, trialability, and observability. The dimensions of convenience, satisfaction, needs, and difficult to understand had two items each which

Table 2

Rogers' (1983) Characteristics of an Innovation and
Potential Items Measuring Each Dimension (See Appendix B)

I. Relative Advantage

- | | |
|--------------------|------------------------|
| 1. Economic | (12), (17), (31), (42) |
| 2. Social Prestige | (3), (25), (29), (39) |
| 3. Satisfaction | (13), (26), (27), (45) |
| 4. Convenience | (2), (5), (21), (34) |

II. Compatibility

- | | |
|--------------------|-----------------------------------|
| 5. Existing Values | (9), (16), (20), (47), (48), (52) |
| 6. Past Experience | (14), (32), (38), (41) |
| 7. Needs | (15), (24), (28), (37) |

III. Complexity

- | | |
|----------------------------|------------------------|
| 8. Difficult to Understand | (10), (23), (46), (50) |
| 9. Difficult to Do | (7), (35), (36), (40) |

IV. Trialability

- | | |
|-----|--|
| 10. | (1), (4), (19), (30), (43), (49), (51) |
|-----|--|

V. Observability

- | | |
|-----|--|
| 11. | (6), (8), (11), (18), (22), (33), (44) |
|-----|--|
-

Table 3
The Number of Agreements by Judges for
Each of the 52 Potential Items

	Item Number	No. of Agreements
<u>I. Relative Advantage</u>		
1. Economic	12	10
	17	10
	31	13
	42	5
2. Social Prestige	3	13
	25	11
	29	13
	39	15
3. Convenience	2	4
	5	5
	21	10
	34	9
4. Satisfaction	13	8
	26	14
	27	15
	45	7
<u>II. Compatibility</u>		
5. Existing Values	9	14
	16	15
	20	15
	47	10
	48	10
	52	13
6. Past Experience	14	11
	32	13
	38	12
	41	3
7. Needs	15	8
	24	13
	28	3
	37	2

Table 3 cont'd.

	Item Number	No. of Agreements
III. <u>Complexity</u>		
8. Difficult to understand	10	13
	23	13
	46	6
	50	5
9. Difficult to do	7	7
	35	13
	36	11
	40	9
IV. <u>Trialability</u>		
	1	10
	4	6
	19	2
	30	10
	43	7
	49	11
	51	6
V. <u>Observability</u>		
	6	8
	8	12
	11	14
	18	12
	22	13
	33	13
	44	8

qualified as valid measures.

Following is a description of how items were selected for inclusion in the questionnaire (see Appendix A).

I. Relative Advantage.

1. Economic. Items #12, #17 and #31 were included because they had sufficient correct classifications to qualify as valid measures of the dimension.
2. Social Prestige. Although all four items surpassed the minimum criteria, items #3, #29 and #39, each with more than 12 correct classifications by judges were chosen. Item #39 was re-written negatively so that there would be at least one item in the dimension written in a negative form.
3. Convenience. Items #21 and #34 surpassed the minimum criteria. While item #5 had been categorized correctly by only 5 judges, this item was chosen because it was in keeping with the literature related to resistance to mainstreaming. The wording of this item was changed to emphasize the general characteristic of relative advantage.
4. Satisfaction. Two items (#26 and #27) met the minimum criteria. Item #13 was selected for inclusion in the questionnaire as it better reflected the literature on mainstreaming. The wording of this item, however, was changed to improve its clarity.

II. Compatibility

5. Existing Values. All items measuring this dimension exceeded the minimum criteria. Items #9, #16, and #20 were selected based on their number of correct responses by judges. Item #16, however, was re-worded negatively so that there would be at least one item measuring the dimension written in a negative form.

6. Past Experience. Items #14, #32 and #38 were selected on the basis of their relatively high number of correct classifications by the judges. These three items therefore all qualified as valid measures of the dimension.

7. Needs. Two items (#15 and #24) qualified as measures of this dimension. Item #37 was selected for inclusion because it was more in keeping with the needs of the teacher than item #28. Item #37 was re-worded to improve its clarity.

III. Complexity

8. Difficult to Understand. Items #10 and #23 both exceeded the minimum requirement of 8 correct classifications by the judges. Item #50 was selected over #46 because the latter item was similar to one in another section of the questionnaire. The wording of item #50 was changed to improve clarity.

9. Difficult to Do. The three items selected to measure this dimension were #35, #46, and #40. These items all surpassed the minimum requirement as a valid measure.

IV. Trialability.

Items #1, #30, and #49 were chosen for inclusion in the questionnaire as they all exceeded the minimum requirement to qualify as a valid measure of the dimension.

V. Observability.

While all potential items qualified as valid measures of this dimension, #11, #22, and #44 were selected. These items had the highest number of correct classifications by judges and best represented the notion of observability of results to others.

The selected items were then ordered similarly to the previous list and re-numbered. Table 4 shows Rogers' (1983) characteristics of an innovation and selected questionnaire item numbers representing each dimension.

Part III This section of the questionnaire was designed to measure teacher observations of the principal's role behaviours when implementing mainstreaming. Items in Part III were adapted from an existing questionnaire (Duquette, 1983) which measured teacher perceptions of the principal's role behaviours when implementing a new curriculum document.

Table 4

Rogers' (1983) Characteristics of an Innovation
and Selected Items Measuring Each Dimension (see Appendix A)

I. Relative Advantage

- | | |
|--------------------|-----------------|
| 1. Economic | (7), (12), (22) |
| 2. Social Prestige | (2), (20), (29) |
| 3. Satisfaction | (8), (18), (19) |
| 4. Convenience | (3), (14), (24) |

II. Compatibility

- | | |
|--------------------|------------------|
| 5. Existing Values | (4), (11), (13) |
| 6. Past Experience | (9), (23), (29) |
| 7. Needs | (10), (17), (27) |

III. Complexity

- | | |
|----------------------------|------------------|
| 8. Difficult to Understand | (5), (16), (33) |
| 9. Difficult to Do | (25), (26), (30) |

IV. Trialability

- | | |
|------------------|-----------------|
| 10. Trialability | (1), (21), (32) |
|------------------|-----------------|

V. Observability

- | | |
|-------------------|----------------|
| 11. Observability | (5), (6), (31) |
|-------------------|----------------|
-

The Principal's Role in Curriculum Implementation Questionnaire (PRCIQ) (Duquette, 1983) was designed to measure teacher perceptions of the principal's role behaviours during the implementation of the innovation of new curricula. This instrument employed as its conceptual framework Dalin's (1978) factors related to educational change. In this study, curriculum implementation was also considered an innovation, and the conceptual framework was also Dalin's (1978) factors of educational change. It therefore seemed that since new curricula and mainstreaming were both considered educational innovations and that the same conceptual framework was utilized, the PRCIQ would be a useful instrument for this study.

Content and construct validity of the instrument were established in a manner similar to that explicated in the previous section and is described elsewhere (Duquette, 1983). It should be noted, however, that in three field-testing trials (N=383) with teachers in the eastern Ontario region the instrument was shown to be a valid measure of Dalin's (1978) four factors (see Table 5). Kuder-Richardson (formula 20) reliability coefficients were calculated for each of the trials and ranged from .64 to .87 for the first trial, from .67 to .85 for the second trial, and from .45 to .83 for the third trial.

It therefore appeared that the 37 items on the PRCIQ would provide a useful basis for research on the principal's behaviours during the implementation of mainstreaming (see

Table 5

Summary of Correlation Coefficients of Items of the
PRCIQ During Three Field-testing Trials

Source	First Trial N=115	Second Trial N=157	Third Trial N=111
Present degree of imple- tation with factors	.14 - .35	.29 - .37	.35 - .44
Predicted degree of implementation with factors	.19 - .39	.30 - .46	.03 - .43
Items with factors	.33 - .83	.35 - .82	.31 - .79
Present degree of imple- mentation with items	.01 - .35	.06 - .34	-.01 - .36
Predicted degree of implementation with items	-.05 - .32	.06 - .48	-.01 - .41

Appendix A).

As the PRCIQ was related to the implementation of the innovation of curricula, ten of the items had to be re-worded to include the words "mainstreaming" instead of "curriculum implementation". In addition, five items (#3, #23, #31, #32, #37) were re-worded so that they measured observed behaviours rather than perceptions. Finally, the wording of items #11, #19, #25, #33, and #34 was changed such that the items were more appropriate measures of mainstreaming than would be if the words, "curriculum implementation", were deleted and the word, "mainstreaming", merely inserted.

The response scale for the PRCIQ was "0" and "1" which represented "Yes" and "No" respectively. For the purpose of this research the response scale was modified to a simple "Yes/No" format, and respondents were asked to indicate whether they had observed specific principal behaviours. A low score suggested that teachers had observed the behaviour indicated by the item.

After the wording of the 37 items had been adapted to reflect the innovation of mainstreaming and the response scale had been slightly modified, the items were read for clarity and appropriateness. Two area superintendents with a board of education in the eastern Ontario region read the items and made some suggestions to improve clarity and appropriateness. Minor changes in the wording of items #7, #30, and #31 were made after being read by these two board officials. It was then felt that the modified PRCIQ would be a useful instrument for examining

the principal's role in the implementation of mainstreaming. Table 6 shows Dalin's (1978) factors of educational change and questionnaire items representing each factor.

PART IV The final section of the teacher questionnaire contained 11 semantic differential-type items, one demographic item, and an item related to teacher attitude toward mainstreaming (see Appendix A). Each of these elements is discussed below.

The semantic differential items in this questionnaire included a range of adjectives derived from Osgood et al. (1967) which were used to describe teacher attitudes toward mainstreaming. Three dimensions of attitude which were measured in this semantic differential were (a) evaluation, such as fair-unfair; (b) potency, such as light-heavy; and (c) oriented activity, such as active-passive. Of the eleven items in the semantic differential 9 were categorized as evaluation, 1 was classified as potency and 1 was considered oriented activity. Although the semantic differential was one of the three measures of teacher attitude towards mainstreaming, it alone served as the dependent variable for this study.

The final demographic item in this questionnaire related to age. Respondents were asked to circle their age bracket (see Appendix A).

The last item on the questionnaire related to teacher willingness to continue mainstreaming next fall if the choice was entirely theirs to make. The response format was merely "Yes" or "No" (see Appendix A). This item was similar to one

Table 6

Dalin's (1978) Factors of Educational Change and
Items Measuring each Factor (see Appendix A)

I. Educational Setting	(1), (3), (7), (12), (15), (16), (24), (28), (37)
II. Environment	(4), (6), (18), (19), (23), (25), (26), (31), (32), (33), (34)
III. Innovation	(2), (5), (8), (9), (10), (11), (13), (14), (17), (20), (21), (22), (29), (30)
IV. Change Strategy	(27), (35), (36)

which appeared in the questionnaire used by McLaughlin-Williams (1983), however, she employed an 8 point Likert-type response scale.

In sum, the teacher questionnaire consisted of four parts. The first section included demographic and informational items. Part II consisted of 33 items measuring teacher perceptions of mainstreaming. In the third part were 37 items measuring teacher observations of the principal's role behaviours during implementation. Part IV consisted of two measures of teacher attitudes toward mainstreaming and one demographic item.

The teacher questionnaire was field-tested with nine graduate students enrolled in a research design and methodology course at the University of Ottawa. The students identified themselves as elementary teachers in the eastern Ontario region. As none of the students indicated difficulty responding to the items, no changes were made to the questionnaire after field-testing.

Data Collection Procedures

Three boards of education in eastern Ontario were selected in the fall of 1984 to participate in this study. Officials at all three boards were supportive of the project and demonstrated their enthusiasm by inviting the researcher to speak to principals and staff members of student/special services, by writing letters to principals encouraging their cooperation and, in one board, by providing the surnames of teachers in selected schools.

During the third week in March, 1985, packets containing instructions (see Appendix D) and a large envelope for the secretary and instructions (see Appendix E), questionnaires and return envelopes for teachers were sent through the board mail systems to each of the 47 selected schools. During that week principals of all schools were telephoned to ensure that they had received the packets and to clarify any instructions.

Teachers were asked to respond within five days, and secretaries were requested to mail the large return envelope containing completed questionnaires to the appropriate board office. During the first week in April follow-up telephone calls were made to the schools.

Data Analysis

Data in this study were analyzed using Pearson product moment correlation coefficients to examine the relationship of each of the eleven dimensions of characteristics of an innovation and the four factors of educational change to teacher attitudes toward mainstreaming. To determine which of the dimensions and factors were the best predictors of teacher attitudes stepwise regression analyses were done using the 11 dimensions as predictors of attitudes toward mainstreaming in one analysis, and the 4 factors of educational change in the other.

In summary, this descriptive, correlational, survey research study was designed to explore the relationship between regular education teacher's perceptions of the

characteristics of the innovation of mainstreaming and of the principal's behaviours to teacher's attitudes toward mainstreaming. Rogers' (1983) characteristics of the innovation and Dalin's (1978) factors of educational change were employed as the conceptual framework of this study.

Instruments were adapted for use in this study and were sent to teachers in the eastern Ontario region. Schools and teachers participating in this study were selected in a systematic manner, and data were analyzed using stepwise regression procedures. In the following chapter the results are presented.

CHAPTER IV

PRESENTATION OF RESULTS

In this chapter results of data analysis are presented. In the first section the sample is described. Reliability and inter-relationships with each of the two sets of independent variables are presented in the second and third sections. Correlations between the independent variables are presented in the fourth section. Finally, the tests of hypotheses are discussed.

Sample

The sample consists of English-speaking teachers from selected K-6 schools of three large boards of education in the eastern Ontario region. To qualify as a respondent, teachers should have experience mainstreaming exceptional children for at least 25% of the school day. One hundred and eighty-nine teachers met the criteria and returned the questionnaires. Although the total number of teachers who mainstream in the selected schools is unknown, it is assumed that 189 represents a substantial proportion.

Over half of the sample were between 36 and 45 years of age inclusive (see Table 7), and 31% taught grades 4 and 5 in 1983-84, while 36% taught the same grades the following school year (see Table 8). Over one-half of the teachers had mainstreamed for over two years (see Table 9), and integration was usually implemented on a part-time basis (see Table 10). As shown in Table 11, intellectually handicapped students are most frequently integrated into regular classrooms. Finally, 60% of the teachers in the sample indicated having completed no coursework in special education (see Table 12).

Table 7

Distribution of Sample According to Age

<u>Age</u>	<u>Number</u>
< 26 years	1
26-35 years	40
36-45 years	104
46-55 years	26
> 56 years	6
No response	<u>11</u>
	189

Table 8

Distribution of Sample According to Grade Taught in
School Year 1983-84 and 1984-85

<u>Grade Taught</u> <u>1983-1984</u>	<u>No.</u>	<u>Grade Taught</u> <u>1984-85</u>	<u>No.</u>
Jr. Kindergarten	3	Jr. Kindergarten	7
Sr. Kindergarten	22	Sr. Kindergarten	20
1	29	1	32
2	17	2	14
3	16	3	18
4	25	4	25
5	25	5	31
6	18	6	19
7	2	7	1
8	4	8	2
No response	<u>18</u>	No response	<u>20</u>
	189		189

Table 9

Distribution of Sample According to Length of
Experience Mainstreaming

<u>Length of Experience Mainstreaming</u>	<u>Number</u>
Less than 6 months	8
6 months - 1 year	40
1 year - 1 1/2 years	11
1 1/2 years - 2 years	23
over 2 years	97
No response	<u>10</u>
	189

Table 10

Distribution of Sample According to Organizational
Pattern of Mainstreaming

<u>Organizational Pattern</u>	<u>Number</u>
Remain in special education classroom for most of the day but come into your classroom for certain subjects	98
Remain with you most of the day but go out of the classroom to receive some sort of special help (e.g., resource)	60
Remain in your classroom all day without leaving for any special assistance	17
No response	<u>14</u> 189

Table 11

Distribution of Sample According to Type of Exceptionality and
Number of Students Mainstreamed in School Years

1983-84 and 1984-85		
<u>Type of Exceptionality</u>	<u>Number of Students Mainstreamed in 1983-84</u>	<u>Number of Students Mainstreamed in 1984-85</u>
Physical	26	28
Intellectual (not gifted)	81	84
Communication	36	49
Behavioural	36	55
Multiple	26	26
N=189		

Table 12

Distribution of Sample According to Training
in Special Education

Ministry of Education Special Education Courses	Number
Part I	26
Part II	18
Part III	16
No Courses	<u>129</u>
	189

Independent Variables

Presented in this section are data on the independent variables of teacher perceptions and principal behaviours. Specifically, for each of the above variables reliability coefficients and intercorrelational values are presented for each dimension or factor of the above independent variables.

Teacher Perceptions of Mainstreaming

Internal reliability as calculated using Cronbach's alpha produced coefficients for each dimension that range from a minimum of .18 to a maximum of .69 (see Table 13). While some of these are quite small the results are not particularly surprising since each dimension was measured by three items only. Means and standard deviations of items measuring teacher perception are shown in Appendix F. A matrix showing intercorrelations of dimensions of teacher perceptions indicates that values range from -.06 (economic and social prestige) to .55 (satisfaction and needs), and five other pairs produced correlations $\geq$.40 (see Table 14). Although the values are relatively low, 47 of 55 are significantly related to another dimension.

Teacher Observations of the Principal's Behaviours

Internal reliability as calculated using the Kuder-Richardson (formula 20) produced coefficients for each factor that range from a minimum of .62 to a maximum of .84 (see Table 15). A matrix showing intercorrelations of factors of

Table 13

Alpha Coefficients for Dimensions of Teacher Perception

Dimension	Reliability Coefficient
Economy	.18
Social Prestige	.47
Convenience	.44
Satisfaction	.21
Existing Values	.38
Past Experience	.24
Needs	.53
Difficult to Understand	.43
Difficult to do	.69
Trialability	.45
Observability	.20

N=189

Table 14

Intercorrelations Among Dimensions of Teacher Perception

	Social Prestige*	Satisfaction	Convenience	Existing Values	Past Experience	Needs	Difficult to Understand	Difficult to Do	Trialability	Observability
Economic	-.06	.20	.34	.21	.24	.26	.25	.35	.09	.06
Social Prestige		.37	.02	.17	.04	.38	.15	.12	.26	.27
Satisfaction			.35	.17	.20	.55	.14	.31	.29	.23
Convenience				.19	.31	.33	.28	.40	.40	.15
Existing Values					.32	.36	.29	.19	.15	.30
Past Experience						.17	.47	.39	.14	.19
Needs							.20	.49	.40	.27
Difficult to Understand								.30	.26	.24
Difficult to Do									.35	.24
Trialability										.22

N=189

*If $r \geq .15$ it is significant at the .05 level.

Table 15
Kuder-Richardson (formula 20) Reliability Coefficients
for Factors of Principal Behaviours

Factor	Reliability Coefficient
Educational Setting	.81
Environment	.79
Innovation	.84
Change Strategy	.62

N=189

principal behaviours indicates a relatively high degree of commonality among factors (see Table 16). All but one of the values shown in the matrix is .70 or above.

Relationship Between Independent Variables

Correlations between teacher perceptions and principal behaviours were generally weak, ranging from a minimum of .05 to a maximum of .32 (see Table 17). Although the values are relatively low, 28 of 44 are significant.

Dependent Variable

Items in the semantic differential measured teacher attitudes toward mainstreaming. Although this instrument consisted of 11 items, only those 9 items classified as evaluation were used in the analyses. The Cronbach alpha for the nine items was .90. Responses to the items of the semantic differential were scored on a scale ranging from 0 to 6, and most item means indicate that for this instance teacher attitudes tend to be more positive than negative toward mainstreaming (see Appendix H). Standard deviations are relatively high which suggests that the instrument did discriminate between various teacher attitudes (see Appendix H).

Although the semantic differential was used for data analysis, two items in the teacher questionnaire also provided information about teacher attitude toward mainstreaming. Item #23 (see Appendix A) measured teacher attitude after mainstreaming, utilizing a three-point scale ranging from 0 to 2. The sample mean of 1.34 suggests therefore that teachers may feel positive

Table 16

Intercorrelation among Factors of Principal Behaviours

	Environment*	Innovation	Change Strategy
Educational Setting	.70	.80	.70
Environment		.70	.56
Innovation			.74

N=189

*If $r \geq .15$, it is significant at the .05 level.

Table 17
Correlations Between Teacher Perceptions and Principal
Behaviours

	Educational Setting*	Environment	Innovation	Change Strategy
Economic	.22	.13	.26	.27
Social Prestige	.15	.08	.15	.09
Satisfaction	.28	.25	.22	.20
Convenience	.18	.13	.13	.23
Existing Values	.05	.14	.14	.09
Past Experience	.07	.17	.22	.12
Needs	.20	.20	.26	.26
Difficult to Understand	.19	.18	.32	.23
Difficult to Do	.18	.14	.26	.31
Trialability	.11	.12	.17	.21
Observability	.12	.14	.17	.16

N=189

*If $r \geq .15$ it is significant at the .05 level.

about mainstreaming. Item #106 (see Appendix A) referred to whether teachers would freely choose to mainstream in the fall. A two-point scale of 0 and 1 was utilized. The sample mean (.76) indicates that 76% of teachers would choose to mainstream during the next school year. Thus the findings of these two items and the result of the semantic differential would suggest that teachers in this sample may have positive feelings about mainstreaming.

Tests of Hypotheses

Teacher Perceptions of Mainstreaming

Pearson product moment correlation coefficients were calculated between each of the dimensions of perception and attitudes toward mainstreaming (see Table 18). Coefficients range from a minimum of .25 (past experience) to a maximum of .56 (needs), and all but two dimensions produced correlation coefficients $> .35$. Each of the eleven dimensions correlated significantly with attitudes toward mainstreaming.

As all dimensions of perception were shown to be related to attitudes toward mainstreaming, a stepwise regression analysis was done to determine which set of the dimensions were the best predictors of attitudes. The BMDP2R stepwise regression package was utilized to conduct this analysis. As shown in Table 19 the set of dimensions which are the best predictors of attitudes include difficult to do, observability, needs, existing values, trialability, social prestige, and economy. However, in the last step of the

Table 18
Correlations Between Teacher Perceptions of Mainstreaming and
Attitudes Toward Mainstreaming

Dimension	r*
Economy	.38
Social Prestige	.30
Convenience	.41
Satisfaction	.40
Existing Values	.39
Past Experience	.25
Needs	.52
Difficult to Understand	.36
Difficult to Do	.53
Trialability	.39
Observability	.42

N=189

* If $r \geq .15$ it is significant at the .05 level.

Table 19

Results of Stepwise Regression Using Eleven Dimensions
Measuring Teacher Perceptions as Predictors of Attitudes
Toward Mainstreaming

Dimension[a]	Multiple R	R Square	R Square Change	Regression Coefficient	F to Remove
Difficult to Do	.53	.28		1.08	14.81
Observability	.61	.37	.09	1.33	13.10
Needs	.66	.43	.06	.72	3.33*
Existing Values	.68	.46	.03	.99	6.97
Trialability	.69	.48	.02	.72	5.73
Social Prestige	.70	.49	.01	.77	6.45
Economy	.71[b]	.51	.02	.86	5.92

N=189

a. Other variables related to perception were not presented as their F Ratios were insufficient for inclusion in the equation.

b. $F(7,182) = 26.61, p < .01$

*In the last step only, this item was not significant.

analysis, the dimension, needs, no longer made a significant contribution. If needs is deleted from the predictor set, then the value of r is .70. These dimensions are representative of all five perceived characteristics of an innovation.

Teacher Observations of the Principal's Behaviours

Pearson product moment correlation coefficients were calculated between factors of principal behaviours and attitudes toward mainstreaming (see Table 20). Coefficients range from a minimum of .28 (educational setting) to a maximum of .37 (innovation). Each factor of principal behaviour has a statistically significant correlation with teacher attitudes toward mainstreaming.

As all factors of principal behaviours demonstrate a relationship to attitudes toward mainstreaming, a stepwise regression analysis was done to determine which factors were the best predictors of attitudes. The BMDP2R stepwise regression package was utilized to conduct this analysis. As shown in Table 21 the factor of principal behaviour which is the best predictor of teacher attitudes is innovation. Although the factor of educational setting, environment, and change strategy produced moderately strong correlations with attitudes, in the regression model innovation absorbed more of the common variance and became the only significant factor. There is a very high correlation amongst the four factors (see Table 16).

Table 20

Correlations of Factors Measuring Principal Behaviours and
Teacher Attitudes Toward Mainstreaming

Factor	r*
Educational Setting	.28
Environment	.30
Innovation	.37
Change Strategy	.33

N=189

* If $r \geq .15$ it is significant at the .05 level.

Table 21

Results of Stepwise Regression Using Four Factors of
Principal Behaviour as Predictors of Attitudes Toward
Mainstreaming

Factor [a]	Multiple R	R Square	Regression Coefficient	F to Remove
Innovation	.37	.14	.96	29.18*

N=189

a. Other variables related to the principal's behaviours were not presented as their F Ratios were insufficient for inclusion in the equation.

* Significant at $p < .05$.

Teacher Perceptions of Mainstreaming and Teacher Observations of the Principal's Behaviours

Using the BMDP2R stepwise regression package an analysis was done to determine the set of dimensions and factors that were the best predictors of teacher attitudes toward mainstreaming (see Table 22). For this instance the set of six variables which are strongest predictors of attitudes includes difficult to do, observability, existing values, convenience, innovation, and satisfaction. Of these six variables five are dimensions related to teacher perceptions of mainstreaming which represent four of the five perceived characteristics of an innovation. The remaining one variable, innovation, is a factor related to the principal's behaviours. It should be noted that the multiple R coefficient for difficult to do varies slightly between Tables 19 and 22; for the latter, the sample size is only 172.

A discussion of these results and interpretation of their theoretical significance is presented in the following chapter.

Table 22

Results of Stepwise Regression Using Eleven Dimensions Measuring
Teacher Perception and Four Factors Measuring Principal
Behaviours as Predictors of Attitudes Toward Mainstreaming

Dimension/(a) Factor	Multiple R	R Square	R Square Change	Regression Coefficient	F to Remove
Difficult to do	.57	.33		.58	84.26
Observability	.64	.41	.08	.29	22.72
Existing Values	.68	.45	.04	.22	13.83
Convenience	.69	.49	.04	.20	11.75
Innovation	.72	.52	.03	.17	8.48
Satisfaction	.73(b)	.53	.01	.16	7.03

N=172

(a) Other variables related to teacher perception or principal behaviour were not presented as their F-Ratios were insufficient for inclusion in the equation.

(b) $F(6,166) = 31.69, p < .01$.

CHAPTER V

DISCUSSION OF RESULTS

A discussion and an interpretation of results are presented in the following manner. In the first section data on teacher perceptions of mainstreaming are discussed, and in the second part data on principal behaviours are examined. Results of the tests of hypotheses are discussed in the final section.

Teacher Perceptions of Mainstreaming

Teacher perceptions of mainstreaming were measured using a thirty-three item instrument based on Rogers' (1983) framework. In the following section reliability coefficients and intercorrelations of dimensions are discussed.

Reliability coefficients for each of the eleven dimensions are only moderately strong (see Table 13). This result, however, is not so surprising as each dimension was measured by only three items. It is interesting to note that in spite of the low alpha levels in some instances, each dimension is a significant predictor of attitude.

While intercorrelation coefficients of dimensions of perception are relatively weak, 47 of 55 are significant (see Table 14). This result indicates that the eleven dimensions of perception are not independent of each other. In previous research using the Rogers and Shoemaker (1971) model this problem also existed (Hahn, 1974; Holloway, 1977; McLaughlin-Williams, 1983). It would seem therefore that although Rogers' (1983) updating provides a more comprehensive framework for the

examination of teacher perceptions than the Rogers and Shoemaker (1971) model, interdependence of variables does remain a weakness.

Teacher Observations of the Principal's Behaviours

From the literature on planned change it appears that the principal's actions are related to user attitudes of the innovation (Nicholson & Tracy, 1982). The activities of the principal during implementation involve the management of organizational variables, such as communication channels, support services, and resources. As mainstreaming is an educational innovation, one of the purposes of this study was to assess the relationship between the principal's actions during mainstreaming and the attitudes of teachers toward mainstreaming.

For this study, teacher observations of the principal's behaviours were measured using a 37 item instrument based on Dalin's (1978) factors related to educational change. In the following section reliability coefficients and intercorrelations of factors are discussed.

Reliability coefficients as calculated using the Kuder-Richardson (formula 20) are relatively strong (see Table 15) ranging from a minimum of .62 (change strategy) to a maximum of .84 (innovation). The coefficient for change strategy, while of the lowest magnitude, is rather remarkable as this factor is measured by only three items. Reliability coefficients for factors in the study by Duquette (1983) were very similar to those produced in this research.

As shown in Table 16, for this occasion coefficients of a relatively high magnitude demonstrate a lack of independence among factors. Results for the trials using the original form of the instrument, indicate a moderately strong correlation among the factors of educational setting, innovation, and change strategy (Duquette, 1983). For all three trials environment emerged as an independent factor. For these two studies the use of different innovations (curriculum implementation and mainstreaming) may account for the difference in intercorrelations between factors. As mainstreaming is an innovation which requires the principal to interact with elements outside of the school more frequently than curriculum implementation, the environment factor may therefore play a more independent role.

Relationship Between Independent Variables

Correlations between teacher perceptions and the principal's behaviours were generally low (see Table 17). However, at least three of the four principal behaviour factors are significantly correlated with the dimensions of economic, satisfaction, needs, difficult to understand, and difficult to do. It is possible that for this sample teacher perceptions in the above areas may have been influenced by the principal's behaviours. It is also possible that for this instance the principal's perception of teacher competence in the area of mainstreaming may have influenced his or her level of supportive behaviour (Hall et al., 1984).

Tests of Hypotheses

Two specific hypotheses were tested. It was predicted that each of the eleven dimensions of perceived characteristics of mainstreaming would be related to teacher attitudes. It was further hypothesized that each of Dalin's (1976) four factors related to the principal's role behaviours during the implementation of mainstreaming would also be related to teacher attitudes. In the following the findings as they relate to these hypotheses are discussed.

Teacher Perceptions of Mainstreaming

As predicted each of the eleven dimensions of teacher perception is significantly related to teacher attitudes toward mainstreaming (see Table 18). This result therefore provides support for the view of Rogers (1983). Although there was some implication that teacher perceptions of mainstreaming as related to the economic, convenience, existing values, and needs dimensions may not be highly correlated with teacher attitude, in keeping with the hypotheses, these four dimensions were all significantly related to attitude.

That the eleven dimensions were all related to attitude is also generally supportive of the findings of McLaughlin-Williams (1983). She examined the relationship of perceptions of characteristics of an innovation and teacher attitude and found that all five characteristics were related to attitude. As the eleven dimensions utilized in this research are representative of the five characteristics, it can therefore be stated that all five

characteristics were also found to have a statistically significant correlation with attitudes.

As all dimensions of perception are significantly related to attitudes, a stepwise regression analysis was done to determine which dimensions best predicted attitudes. For this occasion the results indicate that the set of dimensions of perception which are the best predictors of attitude include: difficult to do, observability, existing values, trialability, social prestige, and economy (see Table 19). These dimensions account for 51% of the variance, while the unique variance accounted for by difficult to do is 28%. The three dimensions of difficult to do, observability, and needs account for 43% of the variance.

Results of stepwise analysis are generally supportive of those reported by McLaughlin-Williams (1983). She found that the characteristics of relative advantage, compatibility and observability were the best predictors of attitude towards mainstreaming. When the dimensions utilized in this study are assigned to their characteristics, all five characteristics are shown to be predictors of attitude. Complexity (difficult to do) and observability, however, emerge as the best predictors of teacher attitudes toward mainstreaming. This result therefore provides partial support for the findings reported by McLaughlin-Williams (1983).

Teacher Observations of the Principal's Behaviours

As predicted, for this occasion each of the four factors of principal behaviours is significantly related to teacher attitudes

toward mainstreaming (see Table 20). This result provides support for the findings of Nicholson and Tracy (1982) who report that principal behaviours are related to teacher attitudes toward an innovation. Support is also provided for Guerin & Szatlocky (1974) and Larrivee & Cook (1979) who state that administrative support is related to the successful implementation of mainstreaming.

It is not so surprising that innovation was most strongly related to teacher attitudes (see Table 20), as it produced a reliability coefficient of .84 (see Table 15). This factor was represented by the greatest number of items and there was adequate support in the literature for the factor as related to the principal's behaviours during mainstreaming. As shown in Table 20 the correlation coefficient for environment is .30 ($p < .05$). This finding is of interest because although there did not seem to be much support in the literature for dimensions of this factor as they are related to the principal's behaviour during the implementation of mainstreaming, it was hypothesized to be related to teacher attitudes toward mainstreaming. This is a significant correlation between change strategy and attitude ($r = .33$). Recall that it is measured by only three items and the reliability coefficient is only .62 (see Table 15). For this occasion the factor of the educational setting demonstrated a weaker relationship with teacher attitude ($r = .28$), even though its reliability coefficient was .81 (see Table 15).

It is of interest that for this study the degree of principal/teacher interaction seems to be related to the correlations

between principal behaviours and attitudes. The factors of innovation and change strategy are generally measured by items suggesting activities done by the principal to assist teachers. These two factors produced more strongly related coefficients to attitude than the factors of educational setting and environment which are generally measured with items referring to activities not requiring the principal to be directly involved with teachers. This result supports the findings of Sivage (1980) who states that the principal must work with teachers during the implementation of mainstreaming. It can therefore be interpreted that teacher attitude toward mainstreaming is influenced more by principal behaviours which require interaction with teachers than by behaviours which do not require such interaction.

The original version of the P.R.C.I.Q. was used to measure the relationship of principal behaviours to level of curriculum implementation. The results of a study employing this instrument did not demonstrate the grouping of factors described above (Duquette, 1983). For each of the three previous trials educational setting, innovation, and change strategy were highly correlated with the dependent variable. The factor of the environment, however, was only moderately correlated. It is possible that this difference is related to the nature of the innovation found in the two studies. When testing the original form of the P.R.C.I.Q. no specific curriculum was indicated. Teachers were asked to select a guideline which they had implemented and respond to items with that in mind. For the present study the innovation of mainstreaming was defined, and all

teachers responded to items with a relatively common understanding of the nature of the innovation.

Although in this study differences are noted between the strengths of the coefficients of each factor measuring principal behaviours and teacher attitudes, all coefficients are statistically significant. It was therefore interesting to do a stepwise regression analysis to determine whether the best predictors of attitudes could be increased. The results indicate that the factor of innovation is the strongest predictor of attitudes, accounting for 14% of the variance.

It is of interest to note, however, that the factor of the innovation is measured by items that generally refer to principal behaviours as they relate to teachers as individuals or groups. The results of stepwise regression analysis therefore provide further support for the notion that teacher attitude toward mainstreaming may be related to the amount of interface between principal and teacher.

Teacher Perceptions of Mainstreaming and Teacher Observations of the Principal's Behaviours

A stepwise regression analysis was done to determine the set of dimensions and factors which best predicted teacher attitudes toward mainstreaming (see Table 22). For this instance the set of six variables included: difficult to do, observability, existing values, convenience, innovation, and satisfaction. These variables accounted for 53% of the variance, and are all significantly related to teacher attitudes. For this occasion the

variable which is the strongest predictor of teacher attitudes was difficult to do, accounting for 33% of the unique variance. When the same type of analysis was done utilizing only dimensions of perception, difficult to do also emerged as the strongest predictor (see Table 19). This variable also has the strongest correlation with attitudes ($r = .53$). It is therefore not surprising that it emerged as the strongest predictor of attitude. In addition, this result provides support for the findings of Hundert (1981) and Larrivee and Cook (1979) who suggest that the success of mainstreaming is related to the perception by regular education teachers that it is relatively easy to implement.

The dimensions of observability and existing values are among the variables in the predictor sets when stepwise regression was done using only dimensions of perceptions (see Table 19) and using both dimensions and factors of the principal's behaviours (see Table 22). These findings provide support for Anderson (1980) and Hundert (1981) who imply that teachers have more positive attitudes toward mainstreaming when they perceive that the mainstreamed student is making observable progress in the regular classroom. The results of stepwise regression also support findings reported in the literature, specifically that the regular education teacher must perceive the concept of mainstreaming as valuable (Macmillan et al., 1976) and that teachers should perceive the regular education classroom as a desirable placement for handicapped students (Hundert, 1981).

For this occasion convenience is included in the set of

variables which best predicts teacher attitudes toward mainstreaming (see Table 22). This result provides support for the suggestion in the literature that through the use of specific inservice techniques it is possible to demonstrate to teachers how to adapt programs to accommodate the requirements of mainstreaming so that teachers may perceive mainstreaming as an innovation which is not inconvenient (Larrivee & Cook, 1979; Leyser & Abrams, 1984).

The only factor representing the principal's behaviours which is included among the variables of the predictor set is innovation (see Table 22). This result is not so surprising as this factor emerges as the best predictor of teacher attitudes when only factors related to the principal's behaviours are included in the analysis (see Table 21). This factor relates to how the principal interacts with teachers during the implementation of mainstreaming, and these findings support the notion that teacher attitudes are related to the amount of support provided by principals to teachers who mainstream (Guerin & Szatlocky, 1974; Larrivee & Cook, 1979; Nicholson & Tracy, 1982).

The final variable included in the predictor set of variables is the dimension of satisfaction (see Table 22). This result supports Lortie (1975) who writes that teachers feel satisfaction when they perceive student progress. Moreover, this finding supports the finding of Larrivee and Cook (1979) who report that teacher attitudes toward mainstreaming are more positive when teachers perceive satisfaction from working with exceptional

students.

Therefore, for this occasion the variables comprising the set of predictors of teacher attitudes include difficult to do, observability, existing values, convenience, innovation, and satisfaction (see Table 22). Five of these variables relate to teacher perceptions of mainstreaming, and only the variable of innovation represents factors related to the principal's behaviours during mainstreaming. This result indicates that for this occasion teacher perceptions of mainstreaming are stronger predictors of attitudes toward integration than the principal's behaviours when implementing this innovation. Finally, all six variables are significantly related to teacher attitudes and provide support for previous findings as reported in the literature.

To summarize, this chapter has provided an analysis of data and an interpretation of results in relation to previous studies. The summary, implications for educational practice, and conclusions are presented in the next chapter.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This chapter is divided into three sections. A review of the study is presented in the first section, and in the second part suggestions for further research are made. Finally, in the third section contributions of this study are reported.

Review of the Study

Rogers (1983) defined an innovation as an idea, practice, or object that is perceived as new by an adopting individual or other adopting unit. Two variables appeared to be related to teachers attitudes toward educational innovations. These variables were teacher perceptions of the innovation and observations of the principal's behaviours during the implementation of the innovation. Mainstreaming is considered to be an educational innovation, however, teacher perceptions of mainstreaming and teacher observations of the principal's behaviours during implementation as predictors of teacher attitudes towards mainstreaming had not been adequately addressed in the literature. It was therefore the purpose of this study to examine these relationships. The term, mainstreaming, is defined as the instruction of exceptional students in regular education classrooms for at least 25% of the day. Students identified as gifted were not included in this definition.

Rogers' (1983) characteristics of an innovation provided part of the conceptual framework used in this study. The five characteristics are relative advantage, compatibility, complexity, trialability, and observability. These characteristics are further divided into eleven dimensions. It

was assumed that Rogers' (1983) dimensions of an innovation was useful in examining the perceptions of teachers who have experienced mainstreaming.

The second element of the conceptual framework was Dalin's (1978) factors related to educational change which incorporated both endogenous and exogenous variables. These four factors are the educational setting, the environment, the innovation, and the change strategy. Dalin (1978) suggested that administrators involved in the implementation of innovations should demonstrate an awareness of the impact of these factors during the implementation phase. It was therefore assumed that during the implementation of mainstreaming principals should demonstrate the behaviours suggested by the factors.

The relationship between teacher perceptions of mainstreaming and teacher attitudes toward that innovation had been examined by McLaughlin-Williams (1983). She employed the Rogers and Shoemaker (1971) characteristics of an innovation as the conceptual framework for her study and found that teacher perceptions of mainstreaming were positively related to teacher attitudes. The relationship between principal behaviours during the implementation of mainstreaming and teacher attitudes towards mainstreaming, however, had not been addressed in the literature. This study therefore was designed to replicate and extend the work of McLaughlin-Williams (1983).

Instruments representative of Rogers' (1983) characteristics and Dalin's (1978) factors were adapted for use in this study on mainstreaming. A sample of 189 regular education teachers

responded to items on these questionnaires as well as to 11 Semantic Differential-type items designed to measure attitudes toward mainstreaming. All teachers whose responses were analyzed had mainstreamed exceptional students for at least 25% of the day.

Results indicated that for each dimension of Rogers' (1983) characteristics of the innovation there was a statistically significant relationship with teacher attitudes toward mainstreaming. For this occasion, results of stepwise regression analysis indicated a set of six dimensions of perceptions as the best predictors of teacher attitudes toward mainstreaming. These dimensions were the following: difficult to do, observability, existing values, trialability, social prestige, and economy. The above dimensions are representative of all five characteristics of an innovation. These dimensions accounted for 51% of the variance in attitudes.

The findings also indicated that for all four of Dalin's (1978) factors, of principals' behaviours, there was a statistically significant relationship with teacher attitudes toward mainstreaming. One interesting result was that exogenous variables, as represented by the factor of the environment, were related to teacher attitudes toward mainstreaming. For this occasion it was demonstrated that the factor of the innovation was the best predictor of teacher attitudes toward mainstreaming. This variable accounted for 14% of the variance in teacher attitudes.

Results of this study supported and extended the previous

work done by McLaughlin-Williams (1983) regarding the relationship between teacher perceptions of mainstreaming and teacher attitudes. The findings also provided information on the relationship between principal behaviours during implementation and teacher attitudes toward mainstreaming. In addition, a model describing the nature of the relationship of teacher perceptions and principal behaviours to attitudes toward mainstreaming was presented.

Suggestions for Further Research

The results of most studies indicate areas of further research. Areas of study suggested by the results of this research are stated below.

1. This research demonstrated a relationship between the two variables of teacher perceptions of mainstreaming and teachers' observations of principal behaviours and teacher attitudes toward mainstreaming. It is suggested by data from this study that the two independent variables are related. Future research therefore should assess the impact of principal behaviours on teacher perceptions of mainstreaming.
2. This study focussed on specific behaviours demonstrated by the principal during implementation. Further study is required on implementation strategies of principals which foster acceptance and positive attitudes by teachers.
3. Results of this research indicate that teacher perceptions of mainstreaming were a stronger predictor of

attitudes toward integration than the principal's behaviours during mainstreaming. Future research utilizing different samples should assess the extent to which this result is generalizable to other populations.

Contributions of the Study

The purpose of this study was to examine the importance of teacher perceptions of mainstreaming and teacher observations of the principal's behaviours when implementing mainstreaming on the attitudes of regular education teachers toward mainstreaming. Elementary teachers who had experience mainstreaming were asked to respond to items in a questionnaire which measured teacher perceptions of mainstreaming, teacher observations of the principal's behaviours, and teacher attitudes toward mainstreaming. The results of this research indicated that the two independent variables were related to teacher attitudes toward mainstreaming. These results also make contributions to the areas of educational change and implementation of mainstreaming. The contributions follow.

Theoretical Contributions

1. Results of this research demonstrate that Rogers' (1983) dimensions of perceived characteristics of an innovation provide a comprehensive framework for the examination of teacher attitude toward specific educational innovations.

2. The findings of this study provide support for the use of Dalin's (1978) factors related to educational change as an appropriate framework for studying the role of the principal in

the implementation of innovations at the school level.

3. Results of this study demonstrate that the principal's role behaviours during implementation may be related to teacher attitudes toward particular educational innovations.

The Implementation of Mainstreaming

4. The results of this study provide information on the relative importance of the dimensions of teacher perceptions of mainstreaming in predicting teacher attitudes toward mainstreaming.

5. The findings of this research provide information on the relative importance of factors related to educational change as represented by the principal's behaviour during the implementation of mainstreaming.

6. The results of this research provide information on the relationship between teacher perceptions of mainstreaming and principal behaviours and attitudes toward mainstreaming.

7. The findings of this research provide specific information on actions that should be taken by principals during the implementation of integration which are related to teacher attitudes toward mainstreaming.

In sum, the results of this study provide further information for scholars studying the fields of educational change and mainstreaming.

This research is the first study in which the relationship of teacher perceptions of mainstreaming and specific behaviours of the principal and teacher attitudes toward mainstreaming is assessed. It was shown that in this instance both variables

contribute to teacher attitudes toward mainstreaming. This research, however, represents only one step in the series of steps leading to a complete understanding of the implementation of mainstreaming.

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Appendix A
Teacher Questionnaire

Part I

In this study mainstreaming/integration is the instruction of exceptional students in regular education classrooms for at least 25% of the day. Exceptional pupils are those identified as such by a school-based or board-based Identification, Placement and Review Committee. In this study students identified as gifted are not included as exceptional.

Please respond to the following items.

1. Indicate the Ministry of Education Special Education courses you have taken, if any.

Part I _____

Part II _____

Part III _____

2. Have you ever felt pressured to mainstream exceptional students? If so, indicate by whom.

Principal _____

Special Education Teacher _____

Special/Student Services _____

Parents _____

Other (please indicate) _____

3. Indicate if you have had experience mainstreaming.

Yes _____

No _____

4. If you answered "Yes" to No. 3, indicate how long you have mainstreamed by circling the appropriate response.

less than 6 months

6 months - 1 year

1 year - 1½ years

1½ years - 2 years

over 2 years

5. If you answered "No" to No. 3, indicate your attitude towards mainstreaming and go on to Part II.

Negative _____

Neutral _____

Positive _____

6. During the school years 1983-1984 and 1984-1985 indicate the number of each type of exceptional student you mainstreamed.

<u>Type</u>	<u>No. '83 - '84</u>	<u>No. '84 - '85</u>
Physical	_____	_____
Intellectual (not gifted)	_____	_____
Communication	_____	_____
Behavioural	_____	_____
Multiple	_____	_____

7. Indicate the one statement which most accurately describes the exceptional students you have mainstreamed.

_____ Remain in a special education classroom for most of the day but come into your classroom for certain subjects.

_____ Remain with you most of the day but go out of the classroom to receive some sort of special help (e.g., Resource).

_____ Remain in your classroom all day without leaving for any special assistance.

8. Indicate the grades you taught in the 1983-1984 and 1984-1985 school years.

1983-1984 _____

1984-1985 _____

9. Indicate your attitude towards mainstreaming before you tried it.

Negative ____

Neutral ____

Positive ____

10. Indicate your attitude towards mainstreaming now that you have tried it.

Negative ____

Neutral ____

Positive ____

11. Indicate reasons, if any, that mainstreaming has worked well in your classroom.

12. Indicate any problems with the implementation of mainstreaming in your classroom.

Part II

This questionnaire measures your perceptions of mainstreaming. You are asked to read each item and circle the most appropriate response. The scale is presented below.

SA - Strongly Agree

A - Agree

N - Neither Agree nor Disagree

D - Disagree

SD - Strongly Disagree

1. Teachers can mainstream on a gradual basis (i.e., one student at first).	SA	A	N	D	SD
2. Parents have more respect for teachers who mainstream than for those teachers who do not.	SA	A	N	D	SD
3. Teachers make more changes in their teaching styles when mainstreaming than when not.	SA	A	N	D	SD
4. Teachers know that mainstreaming is an extension of the societal goal of de-institutionalizing handicapped people.	SA	A	N	D	SD
5. Teachers find that mainstreaming policies are easily understood.	SA	A	N	D	SD
6. Parents of exceptional students are able to discern the effects of regular classroom instruction on their children.	SA	A	N	D	SD
7. Teachers who mainstream generally expend more time and energy on school related activities than those who do not.	SA	A	N	D	SD
8. Teachers are more satisfied with the progress of exceptional students in special education classes than in regular education classes.	SA	A	N	D	SD

9.	Teachers have little formal training on how to mainstream.	SA	A	N	D	SD
10.	Mainstreaming enhances teachers' feelings of professional worth.	SA	A	N	D	SD
11.	The aim of mainstreaming is incongruous with teachers' professional beliefs.	SA	A	N	D	SD
12.	Teachers who mainstream spend more time preparing materials, completing forms and attending meetings than those who do not.	SA	A	N	D	SD
13.	The objectives of special education legislation are consistent with present day societal values.	SA	A	N	D	SD
14.	It is more convenient to teach exceptional students in a regular education classroom than in a special education classroom.	SA	A	N	D	SD
15.	Teachers do not notice any changes in students when they are mainstreamed.	SA	A	N	D	SD
16.	Special education legislation is somewhat perplexing to teachers.	SA	A	N	D	SD
17.	Mainstreaming provides teachers an opportunity for professional growth.	SA	A	N	D	SD
18.	Teachers who mainstream feel greater satisfaction than those who do not.	SA	A	N	D	SD
19.	Teachers enjoy instructing exceptional students in regular education classrooms more than in special education classrooms.	SA	A	N	D	SD
20.	Teachers who mainstream are more highly regarded by their colleagues than those who do not.	SA	A	N	D	SD
21.	For teachers who have tried mainstreaming with unsatisfactory results, the option exists for them not to participate further.	SA	A	N	D	SD

22.	In the long run, mainstreaming saves society money since students are more apt to cope when they become adults.	SA	A	N	D	SD
23.	Teachers have mainstreamed prior to the passage of special education legislation.	SA	A	N	D	SD
24.	Teachers are able to adapt regular classroom programs to accommodate mainstreamed students.	SA	A	N	D	SD
25.	Teachers find the administrative requirements of mainstreaming difficult to manage.	SA	A	N	D	SD
26.	Teachers usually mainstream with few problems.	SA	A	N	D	SD
27.	Teachers' needs for structure and routine in a regular education classroom are not met when mainstreaming.	SA	A	N	D	SD
28.	Teachers feel competent to instruct exceptional students in regular education classrooms.	SA	A	N	D	SD
29.	Teachers who mainstream have the same status as those who do not.	SA	A	N	D	SD
30.	Teachers find that the actual day-to-day mainstreaming activities become burdensome.	SA	A	N	D	SD
31.	The community is generally aware of the long term social effects of mainstreaming exceptional students.	SA	A	N	D	SD
32.	Even when first trying mainstreaming, teachers usually integrate more than one exceptional student at a time.	SA	A	N	D	SD
33.	Teachers do not understand how they are to integrate exceptional students into regular education classrooms.	SA	A	N	D	SD

Part III

This questionnaire measures your observations of the principal's behaviours during the implementation of mainstreaming. You are asked to read each item and circle the appropriate response (i.e., "Yes" or "No"). If you have had more than one principal during your experiences with mainstreaming consider only the actions of the first principal. Although the items are written in the present tense, if it is more appropriate to consider them in the past tense, please do so.

- | | | |
|---|-----|----|
| 1. The principal arranges for inservice sessions related to mainstreaming <u>prior</u> to its implementation. | Yes | No |
| 2. The principal ensures that teachers clearly know their roles in implementing mainstreaming. | Yes | No |
| 3. The principal speaks knowledgeably about mainstreaming. | Yes | No |
| 4. The principal provides time for teachers to communicate with parents/community groups about mainstreaming. | Yes | No |
| 5. The principal ensures that the organization is flexible enough to accommodate mainstreaming. | Yes | No |
| 6. The principal permits parents/community groups to participate in the development of mainstreaming plans. | Yes | No |
| 7. The principal provides funds to assist in implementing mainstreaming. | Yes | No |
| 8. The principal ensures that the objectives of mainstreaming are clear to the teachers. | Yes | No |
| 9. The principal knows how compatible the approaches suggested in mainstreaming are with the professional values of the teachers. | Yes | No |
| 10. The principal ensures that teachers have the necessary new teaching skills to implement mainstreaming. | Yes | No |
| 11. The principal states and demonstrates a commitment to mainstreaming. | Yes | No |
| 12. The principal arranges for teacher workshops related to the practice of mainstreaming. | Yes | No |

13.	The principal attempts to reward those teachers who mainstream.	Yes	No
14.	The principal ensures that teachers know the superintendent's expectations regarding mainstreaming.	Yes	No
15.	The principal arranges for inservice sessions related to mainstreaming <u>during</u> its implementation.	Yes	No
16.	The principal ensures that resource materials are provided to teachers implementing mainstreaming.	Yes	No
17.	The principal lets the teachers know that the trustees support mainstreaming.	Yes	No
18.	The principal solicits the support of parent/community groups regarding mainstreaming.	Yes	No
19.	The principal states his/her awareness of the position of teachers' federations regarding mainstreaming.	Yes	No
20.	The principal ensures that the rationale for mainstreaming is clear to the teachers.	Yes	No
21.	The principal assures the teachers that the superintendent provides support for teachers implementing mainstreaming.	Yes	No
22.	The principal's role in implementing mainstreaming is clear to the teachers.	Yes	No
23.	The principal states his/her awareness of the degree of compatibility between mainstreaming and the values of the community.	Yes	No
24.	The principal encourages teachers to participate in decision-making on how to implement mainstreaming in the school.	Yes	No
25.	The principal talks to parent/community groups about mainstreaming.	Yes	No
26.	The principal encourages the use of scientific/technological innovations as may be required by mainstreaming (e.g., hearing or vision aids).	Yes	No

27.	The principal's experience in implementing other innovations makes implementing mainstreaming easier.	Yes	No
28.	The principal ensures that staff morale is generally high during the implementation of mainstreaming.	Yes	No
29.	The principal ensures that the coordinators'/consultants' roles in implementing mainstreaming is clear to the teachers.	Yes	No
30.	The principal gives attention to solving problems identified by individual teachers in implementing mainstreaming.	Yes	No
31.	The principal states his/her awareness that a change in governmental policy can alter the practice of mainstreaming.	Yes	No
32.	The principal states his/her awareness of the extent to which other sectors of society support the practice of mainstreaming in schools.	Yes	No
33.	The principal states his/her awareness of the extent to which mainstreaming prepares students for success as a member of the labour force.	Yes	No
34.	The principal states his/her awareness of the amount of funds the board has allocated for special education.	Yes	No
35.	The principal states that he/she sees a need for mainstreaming.	Yes	No
36.	There is two-way communication between the principal and the teachers regarding the implementation of mainstreaming.	Yes	No
37.	The principal states his/her awareness of the extent to which other schools in the system are implementing mainstreaming.	Yes	No

Part IV

Directions:

The purpose of this questionnaire is to obtain your reaction to mainstreaming by having you judge it against a series of descriptive scales. Please make your judgements on the basis of what mainstreaming means to you. You are to rate the concept on each of these scales in order.

Here is how you are to use these scales:

If you feel that the concept at the top of the page is *very closely related* to one end of the scale, you should place your X as follows:

safe X : ____ : ____ : ____ : ____ : ____ : ____ dangerous

OR

safe ____ : ____ : ____ : ____ : ____ : ____ : X dangerous

If you feel that the concept is *quite closely related* to one or the other end of the scale (but not extremely), you should place your X as follows:

safe ____ : X : ____ : ____ : ____ : ____ : ____ dangerous

OR

safe ____ : ____ : ____ : ____ : ____ : X : ____ dangerous

If the concept seems *only slightly related* to one side as opposed to the other side (but is not really neutral), then you should mark as follows:

safe ____ : ____ : X : ____ : ____ : ____ : ____ dangerous

OR

safe ____ : ____ : ____ : ____ : X : ____ : ____ dangerous

The direction toward which you mark, of course, depends upon which of the two ends of the scale seems most characteristic of the thing you are judging.

If you consider the concept to be *neutral* on the scale, both sides of the scale *equally associated* with the concept, or if the scale is *completely irrelevant*, unrelated to the concept, then you should place your X in the middle space:

safe ____: ____: ____: X: ____: ____: ____ dangerous

IMPORTANT: (1) Place your X in the middle of spaces, not on the boundaries:

THIS NOT THIS
 ____: ____: ____: X: ____: X ____: ____

- (2) Be sure you mark every scale--*do not omit any.*
- (3) Never put more than one X on a single scale.
- (4) Make each item a separate and independent judgement. Work at fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless, because we want your true impressions.

MAINSTREAMING

valuable ____: ____: ____: ____: ____: ____: ____ worthless

fair ____: ____: ____: ____: ____: ____: ____ unfair

positive ____: ____: ____: ____: ____: ____: ____ negative

unimportant _____ important

light : : : : : : heavy

unsuccessful _____: _____: _____: _____: _____: _____: _____ successful

compulsory : : : : : : voluntary

sweet : : : : : sour

pleasant : : : : : : unpleasant

bad : : : : : good

passive : : : : : active

Indicate your age by circling the most appropriate response.

less than 26 years

26 - 35 years

36 - 45 years

46 - 55 years

56 and over

If you had a free choice, next fall would you be willing to mainstream exceptional students?

Yes _____

No _____

Appendix B
Pool of Potential Items to Measure Teacher
Perceptions of Mainstreaming

Part II Pool of Potential Items to Measure Teachers' Perceptions of Mainstreaming

I. Relative Advantage

Social Prestige

1. Parents have more respect for teachers who mainstream than for those teachers who do not.
2. Administrators do not think more highly of teachers who mainstream.
3. Teachers who mainstream are more highly regarded by their colleagues than those who do not.
4. Teachers who mainstream have higher status than those who do not.

Convenience

5. Teachers are able to adapt regular classroom programs to accommodate mainstreamed students.
6. Teachers find that the regular classroom is not a suitable learning environment for exceptional students.
7. Information on mainstreaming and assistance in implementation is available to teachers.
8. It is more convenient to teach exceptional students in a regular education classroom than in a special education classroom.

Satisfaction

9. Teachers enjoy instructing exceptional students in regular classrooms.
10. Teachers resent being asked to mainstream.
11. Teachers who mainstream feel greater satisfaction than those who do not.
12. Teachers feel uncomfortable instructing exceptional students.

Economic

13. Teachers who mainstream generally expend more time and energy on school related activities than those who do not.
14. Teachers find that mainstreaming requires no extra work.
15. Teachers who mainstream spend more time preparing materials, completing forms and attending meetings than those who do not.
16. In the long run, mainstreaming saves society money since students are more apt to cope when they become adults.

II. Compatibility

Existing Values

17. Teachers know that mainstreaming is an extension of the societal goal of de-institutionalizing handicapped people.
18. Mainstreaming is more consistent with community values than placing exceptional students in segregated special education classrooms.
19. Teachers' beliefs about the education of exceptional students are incongruous with mainstreaming.
20. The aim of mainstreaming is in keeping with teachers' professional beliefs.
21. The objectives of special education legislation are consistent with present day societal values.
22. Generally, society places greater value on mainstreaming compared to placing exceptional students in segregated special education classrooms.

Past Experience

23. Teachers have mainstreamed prior to the passage of special education legislation.
24. Teachers have little formal training on how to mainstream.
25. Mainstreaming makes teachers feel that their instructional skills are insufficient.
26. Teachers feel competent to instruct exceptional students in regular education classrooms.

Needs

27. Mainstreaming provides teachers an opportunity for professional growth.
28. Mainstreaming enhances teachers' feelings of professional worth.
29. Teachers find that instruction in regular education classes benefits exceptional students.
30. Contact with exceptional students in a regular education classroom is worthwhile for "normal" children.

III. Complexity

Difficult to Understand

- 31. To most teachers the procedures involved in mainstreaming are complicated.
- 32. Special education legislation is somewhat perplexing to teachers.
- 33. Teachers find that mainstreaming policies are easily understood.
- 34. The role of the regular education teacher in mainstreaming is clear to teachers.

Difficult to Do

- 35. Teachers find the administrative requirements of mainstreaming difficult to manage.
- 36. Teachers usually mainstream with few problems.
- 37. For most teachers, mainstreaming is easy to do.
- 38. Teachers find that the actual day-to-day mainstreaming activities become burdensome.

IV. Trialability

- 39. Teachers can mainstream on a gradual basis (i.e. one student at first).
- 40. Teachers feel confident using new instructional techniques when trying mainstreaming.
- 41. When mainstreaming for the first time, teachers know they will receive assistance from colleagues.
- 42. Even when first trying mainstreaming, teachers usually integrate more than one exceptional student at a time.
- 43. When teachers feel comfortable instructing one exceptional student, they are encouraged to mainstream others.
- 44. Most teachers are willing to try mainstreaming.
- 45. For teachers who have tried mainstreaming with unsatisfactory results, the option exists for them not to participate further.

V. Observability

46. Teachers do not notice any changes in students when they are mainstreamed.
47. Parents of exceptional students are able to discern the effects of regular classroom instruction on their children.
48. The community is generally aware of the long term social effects of mainstreaming exceptional students.
49. Administrators see differences in exceptional students when they are mainstreamed.
50. The effects of mainstreaming on teachers' instructional performance are not obvious to administrators.
51. Other teachers do not discern changes in attitude toward teaching of teachers who mainstream.
52. Other teachers observe differences in the instructional performance of teachers who mainstream.

Appendix C
Documents Given to Judges During Validation of Items
for Questionnaire Related to Teacher Perceptions of
Mainstreaming

Teachers' Perceptions of Mainstreaming

This document is divided into four parts. In the first section Rogers' (1983) characteristics of the innovation are described. Instructions are explained in Part II, and in the third section are located the item sheets. Finally, a response sheet is found in the fourth section of the document.

Part I Rogers' (1983) Characteristics of the Innovation

1. Relative Advantage Rogers (1983) writes that this category refers to the degree to which an innovation is perceived as better than the idea it supercedes. The degree of relative advantage may be measured in economic terms, but social-prestige factors, convenience and satisfaction are also important components. Rogers (1983) generalizes when he writes that "the greater the perceived relative advantage of an innovation, the more rapid its rate of adoption" (p. 213).
2. Compatibility The second characteristic is defined as the "degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters" (p. 223). An innovation can be compatible or incompatible with (a) socio-cultural values and beliefs, (b) previously introduced ideas, or (c) client needs for innovations. An idea that is not compatible with the prevalent values and norms of a social

system will not be adopted as rapidly as an innovation that is compatible. Rogers (1983) concludes that the adoption of an incompatible innovation often requires the prior adoption of a new value system.

3. Complexity Complexity is the "degree to which an innovation is perceived as difficult to understand and to use" (p. 231). Some innovations are readily understood by most members of a social system; others are more complicated and will be adopted more slowly. Any new idea may be classified on the complexity-simplicity continuum. In general, "new ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to develop new skills and understandings" (Rogers, 1983, p. 231).
4. Trialability Rogers (1983) writes that trialability is the degree to which an innovation may be experimented with on a limited basis. New ideas that can be tried on the installment plan will generally be adopted more rapidly than innovations that are not divisible. An innovation that is trialable represents less uncertainty to the person who is considering it for adoption, as it is possible to learn by doing.
5. Observability The final characteristic of the innovation is defined as the degree to which the results of an innovation are visible to others. Rogers (1983) generalizes when he writes, "the easier it is for individuals to see the results of an innovation, the more likely they are to adopt" (p. 232). Such visibility stimulates peer discussion of a new idea.

Definitions

Innovation An idea, practice or object that is perceived as new by an individual or other unit of adoption. (Rogers, 1983)

Mainstreaming The instruction of exceptional/handicapped students in regular education classrooms for at least 30% of the day. This definition does not include those students identified as gifted.

Reference

Rogers, E. Diffusion of Innovations. New York: The Free Press, 1983.

Part II Instructions

Please classify the items listed on the item sheets as per Rogers' (1983) characteristics and dimensions. When categorizing an item, merely write its number beside the name of the characteristic (for trialability and observability) or dimension (for relative advantage, compatibility and complexity). No item may be classified more than once.

If there are items which you cannot apply to any heading of the response sheet, list their numbers on the bottom of the sheet. Please write a brief note as to why the items do not seem to fit discretely under any of the categories.

Your participation is appreciated.

1. Teachers can mainstream on a gradual basis (i.e. one student at first).
2. Information on mainstreaming and assistance in implementation is available to teachers.
3. Parents have more respect for teachers who mainstream than for those teachers who do not.
4. Most teachers are willing to try mainstreaming.
5. Teachers find that the regular classroom is not a suitable learning environment for exceptional students.
6. Other teachers do not discern changes in attitude toward teaching of teachers who mainstream.
7. For most teachers, mainstreaming is easy to do.
8. The effects of mainstreaming on teachers' instructional performance are not obvious to administrators.
9. Teachers know that mainstreaming is an extension of the societal goal of de-institutionalizing handicapped people.
10. Teachers find that mainstreaming policies are easily understood.
11. Parents of exceptional students are able to discern the effects of regular classroom instruction on their children.
12. Teachers who mainstream generally expend more time and energy on school related activities than those who do not.
13. Teachers resent being asked to mainstream.
14. Teachers have little formal training on how to mainstream.
15. Mainstreaming enhances teachers' feelings of professional worth.
16. The aim of mainstreaming is in keeping with teachers' professional beliefs.
17. Teachers who mainstream spend more time preparing materials, completing forms and attending meetings than those who do not.
18. Other teachers observe differences in the instructional performance of teachers who mainstream.

19. Teachers feel confident using new instructional techniques when trying mainstreaming.
20. The objectives of special education legislation are consistent with present day societal values.
21. It is more convenient to teach exceptional students in a regular education classroom than in a special education classroom.
22. Teachers do not notice any changes in students when they are mainstreamed.
23. Special education legislation is somewhat perplexing to teachers.
24. Mainstreaming provides teachers an opportunity for professional growth.
25. Administrators do not think more highly of teachers who mainstream.
26. Teachers who mainstream feel greater satisfaction than those who do not.
27. Teachers enjoy instructing exceptional students in regular education classrooms more than in special education classrooms.
28. Contact with exceptional students in a regular education classroom is worthwhile for "normal" children.
29. Teachers who mainstream are more highly regarded by their colleagues than those who do not.
30. For teachers who have tried mainstreaming with unsatisfactory results, the option exists for them not to participate further.
31. In the long run mainstreaming saves society money since students are more apt to cope when they become adults.
32. Teachers have mainstreamed prior to the passage of special education legislation.
33. Administrators see differences in exceptional students when they are mainstreamed.
34. Teachers are able to adapt regular classroom programs to accommodate mainstreamed students.
35. Teachers find the administrative requirements of mainstreaming difficult to manage.

36. Teachers usually mainstream with few problems.
37. Teachers find that instruction in regular education classes benefits exceptional students.
38. Teachers feel competent to instruct exceptional students in regular education classrooms.
39. Teachers who mainstream have higher status than those who do not.
40. Teachers find that the actual day-to-day mainstreaming activities become burdensome.
41. Mainstreaming makes teachers feel that their instructional skills are insufficient.
42. Teachers find that mainstreaming requires no extra work.
43. When mainstreaming for the first time, teachers know they will receive assistance from colleagues.
44. The community is generally aware of the long term social effects of mainstreaming exceptional students.
45. Teachers feel uncomfortable instructing exceptional students.
46. The role of the regular education teacher in mainstreaming is clear to teachers.
47. Generally, society places greater value on mainstreaming compared to placing exceptional students in segregated special classes.
48. Teachers' beliefs about the education of exceptional students are incongruous with mainstreaming.
49. Even when first trying mainstreaming, teachers usually integrate more than one exceptional student at a time.
50. To most teachers the procedures involved in mainstreaming are complicated.
51. When teachers feel comfortable instructing one exceptional student, they are encouraged to mainstream others.
52. Mainstreaming is more consistent with community values than placing exceptional students in segregated special education classrooms.

1. Relative Advantage

Social Prestige:

Convenience:

Satisfaction:

Economic:

2. Compatibility

Existing Values:

Past Experience:

Need:

3. Complexity

Difficult to Understand:

Difficult to Do:

4. Trialability

5. Observability

Appendix D
Letter to Secretaries

1985 03 18

Dear Secretary:

I am a special education teacher with the Carleton Board of Education and am currently on a leave of absence while pursuing a doctorate at the University of Ottawa. Your Board of Education has shown interest in this project by granting approval.

The staff at your school has been chosen to participate in this study on mainstreaming. Your assistance, however, is also required. Beginning with the first name of an alphabetized list, place teacher questionnaires in the mailboxes of all English speaking teachers of regular education programs (not special education teachers or resource room teachers). When the teachers and principal have completed the questionnaires, they will give them to you. Please place their envelopes in the large envelope provided. When you receive all the questionnaires please send the large envelope to the Board Office.

Any questions you may have about the research can be answered by telephoning me at 225-6151. In the fall of 1985 the results of this research will be made available to you.

Your assistance is greatly appreciated.

Sincerely,

Cheryl Duquette

Cheryl Duquette

Appendix E
Letter to Teachers

1985 03 18

Dear Colleague:

I am a special education teacher with the Carleton Board of Education and am currently on a leave of absence while pursuing a doctorate at the University of Ottawa. Your Board of Education has shown interest in this project by granting approval.

I would like to know the perceptions and observations of mainstreaming/integration practices of regular education teachers. In order to obtain this information, I ask that you take a few minutes of your time (approximately 15 minutes) and respond to the items in this questionnaire.

When you have completed the questionnaire, place it in the envelope provided and give it to the secretary. Confidentiality is guaranteed, and no attempt is made to identify individual respondents. It would be appreciated if this could be completed within five days. If you have any questions about this questionnaire and/or research, please telephone me at 225-6151. In the fall of 1985 the results of this study will be made available to you.

Your assistance is greatly appreciated.

Sincerely,

Cheryl Duquette

Cheryl Duquette

Appendix F
Means and Standard Deviations of Items Measuring
Teacher Perceptions of Mainstreaming

Means and Standard Deviations of Items Measuring
Teacher Perceptions of Mainstreaming

Characteristic	Dimension	Item Number	X	S.D.
Relative Advantage	Economy	7	1.64	1.08
		12	1.43	1.07
		22	1.90	1.01
	Social Prestige	2	1.78	.91
		20	1.47	.91
		29	1.32	.87
	Convenience	3	1.41	.95
		14	1.03	.91
		24	2.39	.97
	Satisfaction	8	1.78	.98
		18	1.79	.88
		19	1.46	.91
Compatibility	Existing Values	4	2.91	.66
		11	2.62	.86
		13	2.45	.81
	Past Experience	9	1.07	.99
		23	3.13	.62
		28	1.70	1.00
	Needs	10	2.01	.94
		17	2.40	.94
		27	2.26	1.00
Complexity	Difficult to Understand	5	1.72	1.03
		16	1.36	.87
		33	1.87	.99
	Difficult to Do	25	1.80	1.00
		26	1.64	1.05
		30	1.66	.94
Trialability	Trialability	1	2.80	1.01
		21	1.32	.95
		32	1.57	.87
Observability	Observability	15	2.23	.90
		6	2.66	.83
		31	1.35	.85

N = 189

Appendix G
Means and Standard Deviations of Items
Measuring Principal Behaviours

Means and Standard Deviations of Items Measuring
Principal Behaviours

Factor	Dimension	Item Number	X	S.D.
Educational Setting	Financing	7	.28	.45
		16	.45	.50
	Decision-making	24	.53	.50
		1	.26	.44
		12	.22	.41
	Support Structure	15	.20	.41
		37	.48	.50
		3	.57	.50
Environment	Size	28	.46	.50
	School Level			
	Economy	34	.58	.49
	Political Stability	31	.63	.49
	Social Expectations	4	.34	.48
		6	.33	.47
		18	.31	.46
		23	.38	.48
Innovation		25	.34	.48
	Labour Market	33	.42	.49
	Relation to other sectors	32	.42	.49
	Unions	19	.34	.48
	Technical change	26	.66	.47
	Technical change	10	.26	.44
	Behavioural change	2	.39	.49
		22	.49	.50
Change Strategy		29	.50	.50
	Organizational change	5	.78	.42
	Social change	13	.11	.31
	Centrality	14	.51	.50
		17	.43	.50
		21	.37	.48
	Complexity	8	.51	.50
		20	.45	.50
	Nature & Amount of Change	30	.72	.34
	Goal-fit	9	.63	.48
	Goal Stability	11	.73	.45
Change Strategy	Change strategy norms	27	.57	.50
	Decision-making for change	35	.85	.55
	Linkage	36	.59	.49

N=189

Appendix H

Means and Standard Deviations for Semantic Differential Items

Means and Standard Deviations for Semantic Differential Items

Item	X	S.D.
Valuable/worthless	4.44*	1.33
Fair/unfair	3.50	1.63
Positive/negative	4.14	1.43
Important/unimportant	4.62	1.35
Successful/unsuccessful	3.88	1.41
Voluntary/compulsory	2.19	1.95
Sweet/sour	3.17	1.31
Pleasant/unpleasant	3.28	1.50
Good/bad	4.03	1.53

N=189

*Positive values were scored 6; negative values, 0.

Appendix I
Correlations Between Items Measuring Teacher Perceptions
and Attitudes Toward Mainstreaming

Correlations Between Items Measuring Teacher Perceptions
and Attitudes toward Mainstreaming

Characteristic [a]	Dimension	Item No.	r
Relative Advantage	Economy	7	-.04
		12	.24
		22	.51
	Total		.38
	Social Prestige	2	.31
		20	.27
		29	.04
	Total		.30
	Convenience	3	.06
		14	.21
		24	.47
	Total		.41
	Satisfaction	8	.20
		18	.42
		19	.24
	Total		.40
Compatibility	Existing Values	4	.22
		11	.35
		13	.20
	Total		.39
	Past Experience	9	.04
		23	.07
		28	.35
	Total		.25
	Needs	10	.42
		17	.40
		27	.39
	Total		.52
Complexity	Difficult to Understand	5	.25
		16	.19
		33	.31
	Total		.36
	Difficult to Do	25	.28
		26	.41
		30	.58
	Total		.53

Characteristic	Dimension	Item No.	r
Trialability	Trialability	1	.26
		21	.31
		32	.21
	Total		.39
Observability	Observability	6	.38
		15	.26
		31	.15
	Total		.42

N=189

a. If $r \geq .15$ it is significant at the .05 level.

Appendix J

Correlations Between Items Measuring Principal Behaviours
and Teacher Attitudes Toward Mainstreaming

Correlations Between Items Measuring Principal Behaviours and
Teacher Attitudes Toward Mainstreaming

Factor [a]	Dimension	Item No.	r
Educational Setting	Financing	7	.11
		16	.15
	Decision-making Support Structure	24	.25
		1	.05
		12	.13
	Size School Level	15	.09
		37	.04
		3	.27
		28	.29
	Total		.28
Environment	Economy Political Stability Social Expectations	34	.13
		31	.08
		4	.25
		6	.11
		18	.23
		23	.20
	Labour Market Relations to Other Sectors Unions Technical Change	25	.23
		33	.17
		32	.02
		19	.15
		26	.22
		Total	.30
Innovation	Technical Change	10	.25
		2	.30
		22	.19
	Behavioural Change	29	.17
		5	.25
		13	.24
	Organizational Change	14	.14
		17	.03
		21	.20
	Social Change	8	.38
		20	.28
		30	.26
	Centrality	9	.19
		11	.13
		Total	.37
Change Strategy	Change Strategy Norms Decision Making for Change Linkage	27	.28
		35	.11
		36	.30
		Total	.33

N=189

a. If $r \geq .15$, it is significant at the .05 level.