

1983

## Attitudes of Secondary Teachers toward Mainstreaming Mildly Educationally Handicapped Students

Joan D. Barringer

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ATTITUDES OF SECONDARY TEACHERS TOWARD  
MAINSTREAMING MILDLY EDUCATIONALLY  
HANDICAPPED STUDENTS

An Abstract of a Thesis  
Submitted  
In Partial Fulfillment  
of the Requirements for the Degree  
Specialist in Education

Joan D. Barringer  
University of Northern Iowa  
December 1983

## ABSTRACT

With the enactment of Public Law 94-142, the Education For All Handicapped Children Act of 1975, while most educators have been influenced by the requirement to meet the needs of youngsters in the "least restrictive environment," onus of responsibility generally filters down to the classroom teachers. It was the purpose of this study to determine just what are the attitudes of secondary teachers toward integrating the mildly educationally handicapped student into the regular class. The primary question was whether exposure to the concept of mainstreaming positively influences attitudes.

The investigation involved 501 secondary teachers selected by a stratified random sampling from across the state of Iowa. They were classified into three teaching groups: regular class, special class and special education. From each category, 167 were then randomly selected in order to equally represent each teaching category.

Instrumentation was accomplished through a questionnaire which solicited educator response to 20 items relating to the integration of mildly educationally handicapped students into the secondary classroom. Analysis of variance results were obtained.

Conclusions of the study, as taken from the selected population, indicated that attitudes were significantly associated positively with teacher assignment (special education), prior contact (yes), perceived adequacy of training (adequate) and gender of the teacher (female). Degree held, years of teaching experience and community service(d) affected attitudes only insofar as they were mediated by the four more dominant factors.

When all independent variables were paired with each other in 21 conditions, no instance of significant interaction effects were discovered. All independent variables were found to be operating independently of each other in their relationship to receptivity scores.

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This Study by: Joan D. Barringer

Entitled: Attitudes of Secondary Teachers Toward Mainstreaming  
Mildly Educationally Handicapped Students.

has been approved as meeting the thesis requirement for the  
Degree of Specialist in Education

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CHAPTER I  
INTRODUCTION

Historical Perspective

Concern for the individual has been a long-standing value in America. The Fourteenth Amendment to the United States Constitution called for "equal protection of the laws" for all citizens. However, not until recently was this focus on the individual considered relevant to education, particularly as applied to the handicapped individual.

Early concern for the handicapped was expressed in the late 1700's by Jean-Marc-Gaspard Itard (Lucien, 1972). He was one of the first to attempt the instruction of mentally retarded children on a scientific basis. The teacher of Itard promoted moral treatment for the retarded and disturbed, releasing from their chained state those confined in a hospital in Paris.

Reynolds (1973) surveyed more recent history of the education of the handicapped. He noted that from 1850 to the turn of the century these children were, for the first time in America, given educational consideration in the development of residential schools. The subsequent fifty years saw an expansion of these schools with a flourish of them observed from 1950 to 1970 especially for students who were mentally or physically handicapped, blind or deaf. For the child with mild cognitive impairments, special classes became the accepted type of educational service. Since 1970 there has been movement toward integrating into regular classes those mildly

handicapped students thought to be capable of social and academic progress in the mainstream of education. Thus, an obvious trend had been noted in this century from more to less restrictive settings, with integration of the handicapped becoming more of a standard educational practice.

With the signing into law of Public Law 94-142 in 1975 came the culmination of a humanistic concern exhibited toward the atypical individual. This Education of All Handicapped Children Act was multifaceted and included projected educational service deadline dates (Seymour, 1977). Every state or substate unit, if it was to continue receiving funds under the act, was mandated to make available a free, appropriate education for all handicapped children ages 3 to 21 by September, 1980.

An attempt was made to insure that educational personnel were adequately prepared to effectively teach the handicapped. Thus a mandate was included in the law for the preservice and/or inservice education of these personnel in need areas (Federal Register, 1977, p. 42492).

One aspect of the law directly related to this study was the requirement that the state educational agencies shall insure:

1. That to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped.
2. That special classes, separate schooling, or other removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (Federal Register, 1975, p. 42497)

The development of integration of the handicapped child into the regular class has been commonly known as mainstreaming and has evolved from court decisions, state laws, and regulations to the present interpretation of Public Law 94-142. Brenton (1974) has defined the term as follows: "In essence, mainstreaming means moving handicapped children from their segregated status in special education classes and integrating them with 'normal' children in regular classrooms" (p. 23).

While this major law was a tremendous step toward opportunities of equal education for youngsters with disabilities, action mandates do not necessarily reshape attitudes. As with many new legislative requirements, current attitudes of educators have not always been found to be receptive to the concept of mainstreaming (Keough & Levitt, 1976).

Although support has been given to mainstreaming in the educational field, according to Karnes (1977), decisions to date about implementation of Public Law 94-142 have not involved classroom teachers and those directly responsible for handicapped youngsters. Such decisions, made without teacher input, systematically decrease this law's potential for positive impact (Roubinek, 1978).

#### Purpose and Problem of the Study

A hesitancy to integrate handicapped students into the regular classroom was thought to have existed at the secondary level among educators who often functioned in a departmentalized setting. Such an arrangement may have also involved a higher teacher-pupil ratio, less time for and depersonalization of teacher-child interactions, and

more of a tendency to "teach the curriculum" rather than "the student" (Weber, 1977).

The purpose of this study, therefore, was to investigate the relationship of secondary teacher variables to their attitudes toward mainstreaming. The investigator attempted to answer the following problematic question: Is the receptivity of secondary teachers toward mainstreaming related to the following factors--classification of assignment, level of educational training, gender, demography, prior interaction with (a) handicapped person(s), length of experience in education and teacher-perceived exposure to the concept of mainstreaming as derived through pre/in-service training.

#### Significance of the Study

A major change in education has been brought about by Public Law 94-142 which most directly affects the classroom teacher. Despite this decision having been adopted by Congress under court pressure, the decision was unilaterally made with little input from teachers. Considering the importance of the teacher's role to the success of this mainstreaming concept, it was warranted that teacher input be incorporated into the thinking and design of a program in which (s)he will be working.

There have been a number of inquiries at the elementary level into the extent of teacher support given the concept (Barngrover, 1971; Overline, 1977; Stephens & Braun, 1980), but few attitudes have been revealed at the secondary level. Those few studies which were available did not indicate agreement.



The amount of information on the topic to which educators have been exposed was expected to vary, and with it their perception of the ruling regarding integration. It was expected that many secondary teachers directly responsible for the implementation and success of this law would not be supportive of it. However, the contrary may have been found. The research herein undertaken was needed to determine the current level of secondary teacher acceptance of Public Law 94-142. This was in order that administrators of the program may be appraised of the degree of teacher support so that they may seek further to determine and deal administratively with educator concerns as part of the process toward effectively meeting the needs of handicapped children.

Further, in attempting to maximize both the efforts of teachers and the adjustment and growth of students, it is essential that teachers be positively oriented toward this interdependent venture of mainstreaming. It was then necessary to identify characteristics of teachers whose attitudes were less or more favorable to mainstreaming. With that information it may then be possible to plan inservice training, if needed, so as to provide the specific data necessary to affect change in attitudes and behavior of the educators who will be the potential recipients of integrated students.

#### Definition of Terms

Attitudes--A predisposition to think, feel, and perceive (Kerlinger, 1964).

Exceptional Children--For the purpose of this study they were defined as all children who deviated from the average to the degree that they required special educational treatment (Dewar, 1977). This was in exclusion of the gifted and talented child. It was used interchangeably with "handicapped children."

Handicapped Children--All children who deviated from average to such an extent that they required special educational treatment. Examples included such children as the hearing impaired, physically handicapped, visually impaired, speech impaired, those speaking a different primary language, those exhibiting delayed language development, those with borderline intelligence, and those with mild to moderate perceptual problems (Dewar, 1977).

Inservice--A process for extending or continuing the professional development of educators while they were in full-time employment with a particular school district.

Integration--The provision of high-quality education to exceptional children while they remained in the regular grades for as much of the day as possible (Birch, 1974).

Least Restrictive Educational Setting--Placement of a child in the environment most closely related to the regular classroom believed by the diagnostic team to best meet the educational needs of the youngster.

Mainstreaming--The provision of a continuum of services option which allowed for effective special education programming as well as proximity to general educational programs. The degree of an individual student's involvement in either general or special

education was based on the individual's needs (Position Statement on Mainstreaming, 1974).

Mildly Educational Handicapped--Those students who have been labeled educationally handicapped but were capable of functioning in an educational setting without special class placement and with a minimum of additional assistance.

Regular Class Teachers--Those educators who have been certified by the state to teach students the basic academic subjects of a school curriculum. Examples of such subjects were: math, English, and social studies.

Secondary School Level--A regular educational program provided for students attending grades 7 through 12.

Secondary Teachers--Personnel certified by the state to instruct students attending grades 7 through 12. They included regular class, special class and special education teachers.

Special Class Teachers--Educators certified by the state to teach courses other than those of direct academic orientation such as art, music and physical education.

Special Education--Instruction for students who were believed to require alteration of the conventional methods of instruction and materials in order to realize their learning potential (Dewar, 1977). This instruction, especially designed to meet the unique needs of handicapped children, may have included classroom instruction, training in physical education, home-bound education and instruction in hospitals and institutions (Federal Register, 1975).

Special Education Teachers--Those educators certified as teachers of the handicapped pupils who instructed such students in a setting other than the regular classroom. Categories of teachers of the handicapped were: mentally disabled, emotionally disabled, physically handicapped, learning disabled, hearing impaired, visually impaired, communication disabled and chronically disruptive.

### Hypothesis

The null hypotheses that were tested in this study were:

1. There is no significant difference in receptivity to mainstreaming among secondary teachers of differing classifications of assignments.
2. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied levels of educational attainment.
3. There is no significant difference in receptivity to mainstreaming between male and female secondary teachers.
4. There is no significant difference in receptivity to mainstreaming among secondary teachers employed in different demographic settings.
5. There is no significant difference in receptivity to mainstreaming between secondary teachers who have, or have not had, prior interaction with (a) handicapped person(s).
6. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied lengths of experience in education.

7. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied perceived degrees of awareness of the concept as was derived from preservice and inservice training.

Rejection of these hypotheses was set at the .01 level of significance.

### Delimitations

The sample used in this study was composed of secondary educators within the State of Iowa. The major groups under consideration in the study were: regular class teachers, special class teachers and special education teachers. The results are generalizable to those three categories of secondary teachers in Iowa. However, results are generalizable to secondary teachers across the country only to the extent that they resemble the Iowa sample of teachers in characteristics.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Introduction

The Education of All Handicapped Children Act of 1975, Public Law 94-142, specified a free and appropriate education for students nationwide. One of the main tenets of this law required the placement of exceptional youngsters in the "least restrictive environment." Although not expressly stipulated, mainstreaming of children into such a setting has been the procedure followed in achieving this goal.

The review of literature concerning theory and practices of mainstreaming includes the following topics:

1. Historical Perspective
2. Rationale
3. Critiques
4. Programming Considerations
5. Attitudes of Educators
6. Inservice Training
7. Summary

#### Historical Perspective

In America, education of the handicapped has undergone an evolution which has been termed by Reynolds (1974) "progressive inclusion." In the earlier days of this country's development, exceptional persons were neglected and sometimes even abused. By the late 19th century, public acceptance of the need to care for this

segment of humanity grew and institutionalization became the direction for care of the handicapped. Therein, they were "hidden away" from society's main stream (Beard & Maitre, 1977).

However, special schools and classes came into vogue about the turn of this century, while residential schools continued to expand. As early as 1932, Bennett conducted his "efficacy" studies which compared the desirability of special classes or regular classes in educating mildly mentally retarded children. His studies as well as other articles began appearing in the literature, evidencing concern by educators regarding appropriate placement.

By 1950, special classes became the preferred type of educational service for students with mild impairments to learning. For the blind, deaf, mentally and physically handicapped pupils, special schools and residential institutions still flourished. The years between 1950 and 1970 were characterized by rapid growth of self-contained public school classrooms for all classifications of exceptional children (Reynolds, 1974).

Three factors appeared in the literature as major influences on the position of mainstreaming today. The first of these to be considered was litigation, reflecting societal and, more specifically, parental concerns being expressed forcefully. Brown v. Board of Education (1954) established the right to an equal educational opportunity based upon the Fourteenth Amendment. Although this civil rights action against segregation was not directly applicable to the exceptional student, it later became meaningful for the developmentally disabled (Turnbull & Schulz, 1979).

A landmark case, the Pennsylvania Association for Retarded Children v. Commonwealth of Pennsylvania (PARC) was resolved in 1971 by a ruling acceptable to all parties and the court. It concluded in part that the state should provide free public education for all school-age children including the retarded, with regular class placement preferred to special class placement. The following year the case of Mills v. The District of Columbia Board of Education (1971) further expanded the right to education by imposing a zero-reject requirement for service which included all handicaps (not just limited to the mentally retarded). Birch (1974) stated that the two subsequent cases gave the Brown case meaning for the developmentally disabled. He also suggested that a further dimension came in 1973 with the case of Lebank v. Spears wherein the court ordered that a written individualized plan be prepared for every exceptional child. Birch concluded that results from the three previously mentioned court cases very naturally provided a portion of the substance for the 1975 enactment of Public Law 94-142. The three requirements incorporated into federal legislation were: (a) zero-reject education in the most appropriate integrated environment, (b) education for all handicapped children, and (c) a written and individualized educational plan.

According to Overline (1977), a second force joining these litigants and spearheading the mainstreaming movement, was the contribution of the professional press. These essentially were research studies and articles questioning the efficacy of full-time, self-contained special education placement. Some 35 to 40 years after Bennett's work, Dunn (1968) wrote an article: "Special Education for



the Mildly Retarded--Is Much of it Justified?", which seemed to have raised awareness. Although this was not a new question, the impact may have been due to the author's status among peers coupled with the ripeness of the time.

Following his lead, other educators such as Christopolos and Renz (1969), Cegelka and Tyler (1970), and Lilly (1971) pursued the cause. Their printed works also emphasized the paradox that mentally retarded children, while receiving remedial instruction from specially trained teachers and enrolled in expensive classes designed to accommodate their varying needs, were making less progress than similar children in regular classrooms.

Although the initial articles were concerned primarily with the mentally retarded, a myriad of studies, articles, conferences, demonstrations and programs began to appear which also questioned the values of full-time segregated special education classes for the entire range of exceptionalities (Overline, 1977).

Legislation, the third influential component of the mainstreaming movement, has been identified by Wynn (1975). The United States Constitution did not address the issue of education. Responsibility and authority for education was given to the separate states by the Tenth Amendment. The federal government has, however, become involved.

In the 1950's a series of federal legislative provisions established small grants for research and the training of personnel in the education of children with special needs. It was during that period that research on the effects of special class versus regular class placement began to cast substantial questions on the

significance of the kinds of programs criticized earlier by Overline (Johnson, 1962).

In 1961, President Kennedy established the President's Committee on Mental Retardation comprised of leading professionals in fields related to special education. As a result, the committee's recommendations, joined with impetus from the growing movement, produced even greater training and research funds (Wynn, 1975).

On November 5, 1975, President Gerald Ford signed into law the landmark federal legislation, Public Law 94-142, which extended free appropriate education nationwide. It was an extension of the earlier Education of the Handicapped Act (Public Law 93-380). The force behind 94-142 was Section 504 of the bill stating that federal financial assistance may be withheld from any program activity denying its benefits to otherwise qualifying handicapped individuals. This new major federal legislation has radically reconceptualized service to handicapped pupils.

During the last five years, numerous states have passed mandatory special education laws. These laws have clearly delineated the responsibilities of state education agencies, county school systems and individual school districts.

Thus, it would seem that the direction has been reversed from its early orientation, becoming less restrictive. We are now bringing more of the handicapped from what Birch and Johnstone (1975) called "socially-confining isolated classes" into interaction with other students in a normal educational setting using various supports such as the resource room and itinerant model. This process has been

viewed by Reynolds (1974) as more than a fad, but rather as a reflection of the moral development of our society wherein greater concern, acceptance, and responsibility is taken for its members.

### Rationale

Although it is one of the major issues dominating special education today, "mainstreaming" has yet to receive a single accepted design for its implementation. This is due in part to varied interpretations of the law. A common strand was noted throughout the variations discussed. Extreme approaches extend from the integration of special students by providing classrooms for them in the same building used by non-handicapped children, to eliminating all special classes and absorbing exceptional pupils into classes on an age-grade basis (Trotter, 1977). Between these extremes were recommendations to place handicapped children into the same programs as non-handicapped students, but with support provided by specialists such as resource teachers and supportive personnel.

Meisels (1977) attempted to define mainstreaming. In an educational context he saw it as a form of programming that integrated special needs and non-special needs children in regular classrooms.

Birch (1974) saw integration as a program "providing high-quality instruction to exceptional children while they remained in regular grades for as much of the day as possible" (p. 12). He also listed 14 components of mainstreaming that were identified by the majority of directors of special education in the United States. The first point

referred to the meaning of the term under question, ". . . assigning handicapped pupils to regular classes and providing special education for them" (p. 12). The following year Birch and Johnstone (1975) envisioned mainstreaming as ". . . a carefully designed, balanced and individual pro quo teaching arrangement beneficial to children with a variety of kinds of school problems" (pp. 12-21). The authors believed that the approach generally meets the needs of 70 to 80 percent of exceptional children, while also benefitting other students.

Coursen (1976) suggested the adoption of a program where handicapped children are placed in regular classrooms for all or part of the school day, with "steps taken to see that his/her special needs are satisfied within this arrangement" (p. 12).

The word "mainstreaming" seems to have been adopted to portray the instruction of exceptional children in the "mainstream of society," with the goal being to provide a normal learning environment--that of the regular classroom. The basic assumption viewed by Meisels (1977) was that all children vary in their background, abilities and interests. The integrated class was designed to provide an educational experience which was an attempt to be relevant to these differences.

Mainstreaming emphasized the educational needs of children rather than being preoccupied with their diagnostic labels such as mentally disabled or hearing impaired (Caster, 1975). This principle implied that, despite their unequal development, children were to be treated equally in the sense of being offered equal opportunities.

A common factor in mainstreaming designs was that they included a provision that handicapped children should be educated as far as

possible, in the regular classroom for all or a part of the school day, with steps taken to meet their special needs therein. However, when integrated classrooms include children with a wide range of skills and abilities, some form of individualization is necessary. Bruninks and Rynders (1977) stated, "Considered as *raison d'etre* of special education, individualization more than any other word has served to symbolize special education" (p. 16). The process of individualizing instruction offers each pupil the opportunity to follow a curriculum especially designed to meet his/her needs.

### Critiques

As with any practice or concept not yet fully accepted and/or implemented, numerous criticisms have been voiced. Salend (1979) states that critics view mainstreaming as lacking appropriate activities for students functioning at different academic and social levels. He found they believed that integrated children required excessive amounts of the classroom teacher's time and thus deprived peers of valuable interaction with the teacher. Redden and Blackhurst (1978) suggested that to resolve this dilemma, variable and flexible teaching strategies must be designed to foster the academic, physical, and social growth of all children.

Cruickshank (1974) advocated special education because of its greater potential for the development of a positive self-concept for the retarded child than could be achieved in a competitive class. He also noted the ways special education has been abused by administrators

who made it a dumping ground for problem children, forcibly misplacing them rather than finding remedies within the regular classroom.

Ohrtman (1972) concurred with Cruickshank's suggestion and claimed that the reason special classes may do a poor job is because of their abuse and misuse, not because of any weakness of the concept which led to their establishment. He added that the failures attributed to special education can also be partially explained as the result of excessive demands being placed on an emerging professional speciality.

Shurr (1972) found that student self-concept tended to increase with special class placement. Academic achievement unexpectedly did not parallel this improvement in self-concept.

Gottlieb was involved in a series of studies (Goodman, Gottlieb, & Harrison, 1972; Gootlieb, 1974; Gottlieb & Budoff, 1973; Gottlieb & Davis, 1973) which introduced a new dimension into the investigation of the acceptance and rejection of retarded children. In 1950, Johnson had suggested that special class placements were valuable in providing an accepting peer group for the children. This was extended through the research of Gottlieb and his co-workers to include the special class advantage of greater acceptance due to differential criteria (less expectations) held for the retarded by their "normal" peers.

Another study by Trippi (1973) cited research showing the value of special education for mentally retarded children in the regular grades. It suggested that they had fewer friends, fewer after school jobs and fewer realistic goals than the comparable group of mentally

retarded children who had been placed in special classes. They were also found to be less well-adjusted. The writer in explaining these findings assumed that the retarded students had experienced situations in which they had gained greater feelings of confidence and a sense of accomplishment.

Wynn (1975) discussed three drawbacks. One was that handicapped children cannot develop healthy self-concepts since they will always see themselves as different. A second difficulty discussed was that the handicapped children who are not accepted by peers or have difficulty competing with others may develop negative self-attitudes and could withdraw or develop destructive social interaction patterns. Thirdly, mainstreaming could create negative, deeply buried attitudes on the part of both handicapped and non-handicapped children.

Academic progress seemed to be emphasized least among those defending special class placement. There were few supportive studies showing significant academic achievement of special class pupils over those who had been integrated. Taylor (1973) found no significant performance differences between the two.

Novotny (1974) reviewed the issue and concluded that this integrative program had yet to prove its inherent worth. In fact, she noted that the seven educational-setting comparative studies conducted revealed mixed findings concerning the utility of integration and segregation.

Keough and Levitt (1976) concluded in an article on the limitations of integration that mere placement in the regular classroom was insufficient to insure either social acceptance or

academic achievement. They concluded that mere diagnosis and labeling of a student as an explanation of educational failure was over estimated as a panacea. This was merely a beginning, the real help lying in the subsequent programming as well as teacher-peer interaction of the child. These authors noted that few regular class educators felt competent in educating exceptional children.

Kolstoe (1972) saw special classes focusing on individual differences, making use of concrete instructional materials, and capitalizing on the pupils' everyday experiences to bring success. He interpreted that as tailoring the program to the child rather than fitting the child into the available program.

Frequently lost in the accumulation of evidence against special placement are the methodological weaknesses of the studies cited. According to Reger (1974) the value of various alternatives to self-contained classrooms for the exceptional child will not be known until rigorous studies are done. Problems generally presenting major difficulties were said to be randomization of the subjects into treatment groups, sample size, and adequate control of the teacher variables.

Cegelka and Tyler (1970) reviewed the research in terms of design problems and found five critical factors which negatively influenced the validity and generalizability of the results. Dunn (1973) suggested that it was common practice despite these weaknesses, to accept the studies' findings due to the relative uniformity of their results and to thus reinforce their a priori objections to special classes.



Despite these contentions asserting the superiority of special class placement, the weight of the evidence in the literature seemed to support mainstreaming. Meisels (1977) concluded that mainstreaming could be justified legally, morally, socioculturally and educationally. Mainstreaming insured equality of educational opportunity and equal protection under the law and could not be dismissed as just a fad. It was proposed as a moral way to reduce isolation and prejudice while enhancing understanding and acceptance of differences. Its ethical principles were not unlike those proposed by those advocating racial and sexual equality. By eliminating the tracking which tended to trap handicapped children in separate institutions well into adulthood, mainstreaming would increase the potential contribution of exceptional persons to society in general, thus offering a socio-cultural advantage. From an educational standpoint, he concluded that within an integrated classroom context were opportunities for positive peer models and reinforcements. They made available a wider range of learning experiences and exposure to higher personal expectations.

One force in the push for mainstreaming has been the failure of the "efficacy studies" to indicate clear advantages for the special class pupil. Johnson (1962) noted the paradox that existed in the fact that special education had more money per pupil, higher quality teachers and lower student-teacher ratios, yet special class students did not show greater achievement gains than those in the regular class.

Fairly recent investigations into personal and social factors have been more plentiful than those in the area of achievement. Novotny (1974) found that of the following studies on the integration

of educable mentally retarded students (Bradfield, 1973; Gottlieb & Budoff, 1973; Walker, 1974), the pupils were noted to exhibit less maladaptive behavior when mainstreamed than either their counterparts in the special class or the integrated students without benefits of prescriptive teaching. She deduced that social acceptance, status or position will not result from mainstreaming in the absence of other factors.

Other researchers supported these findings. Cegelka and Tyler (1970) failed to find strong support for special classes in the area of personal-social adjustment. Taylor (1973) even concluded that special classes may lead to maladaptive behavior, with the cause possibly resting in the fact that exceptional children lack models for normal behavior and are expected to be "different." This was also suggested by Gottlieb and Budoff (1972).

One such support for the program was appraised in any empirical study by Cantrell and Cantrell (1976), which evaluated the effect of a support teacher program on mainstreaming exceptional and potentially exceptional children within the regular school program. Their results supported the hypothesis that regular school teachers who have access to resource personnel trained in intervention strategies can effect significant gains for students at all levels of intellectual functioning.

Another defense of mainstreaming lay in the area of evaluative instruments. The fairness and accuracy of psychological testing particularly has been debated, thus bringing into question the appropriateness of the placements. Coursen (1976) considered this

issue and suggested that the main measure of retardation was often the intelligence score despite the fact that cultural, social, racial, and even sexual biases of ability tests had been sufficiently well documented to make questionable their value in determining the orientation of a child's entire educational career.

Misclassifications may occur for other reasons. Keough (1974) and her colleagues suggested that tests may be selected inappropriately or incompetently administered. Novotny (1974) considered a combination of causes: a reading problem, a low I.Q., low socio-economic status, poor school behavior, problems in the student-teacher interaction, poor attendance, and materials improperly utilized with a given youngster.

If a child can be tested and labeled, there is always that possibility of mislabeling. A label such as "retarded" can serve only a limited purpose, implying that there is something wrong with the child but does nothing to convey how the need may be met. Iano (1972) suggested that it is frequently generalized that all retarded are alike. He stated that children with low intelligence do not exhibit common learning characteristics that distinguish them from other children. Nor did he find that children with low ability were so similar to each other and different from the "normal" that they required unique educational goals at the elementary level. Similar conclusions were drawn from studies by Folman and Budoff, 1971; Folman and Budoff, 1972; and Gardner, 1968.

Solomon (1976) referred to Maslow's hierarchy of needs which attributed the need for recognition and respect as fundamental to

personality development. Satisfaction of the esteem need results in a feeling of self-worth. With continuous labeling, Solomon saw the exceptional child as missing this very essential ingredient, viewing him/herself as an inferior member of society. The label itself may also condition teacher expectations for the youngster, give the child limited aspirations, and thus become a self-fulfilling prophecy.

Meyers (1973) stated that most retarded persons have been labeled that only by the schools and that well over half of the EMR children are able-bodied. Upon leaving the educational setting, they will not be differentiated from their co-workers.

Orlando and Lynch (1974) questioned the appropriateness of the special class as a training ground in preparation for living in society after the completion of a formal education. They asked if these young people were actually being prepared to meet the world realistically.

It was felt by some writers that the very existence of such a recorded label as "retarded" might be a permanent stigma on the child. It is thus important to eliminate the label if possible (Dunn, 1968; Gottlieb & Budoff, 1972).

A correlated issue yet unmentioned was addressed by Kaufman and others (1973) as well as Sussman (1974). Considerable minority group resentment has arisen from the fact that there has been a substantial overrepresentation of minority group students in special classes. The re-integrating into the regular classroom of these children would relieve some of the tension surrounding the matter.

Gjessing (1972) and Sussman (1974) both questioned the value of special education itself in improving academic performance. Similarly, Cegelka and Tyler (1970) reported on a research review and cited results of studies in which academic achievement was either equivocal or favored regular class placement.

At the secondary level there was a paucity of information available. Matter (1976) presented a paper on the successful integration of hearing impaired students at that level. She stated that it was necessary that the resource teacher provide supportive help to the students and the classroom teacher. The functions of the resource person included acting as an academic tutor to students already equipped with the academic skills, pre-teaching courses to those lacking the skills, and helping classroom teachers adjust their teaching methods for the benefit of the hearing impaired student.

In another more specialized class at the secondary level, home economics, Spencer and Lohman (1977) incorporated into their plans the implementation of the "buddy system," or a student aide to help if necessary. This provided to the individual the attention sometimes needed as well as "normal" peer interaction.

At the secondary level there is more of a selection of available classes in the non-academic realm than at the elementary level. Panagopolos (1977) reported on a successful program designed to integrate educationally retarded students into the regular vocational typing classes without expecting less quality. This was achieved by the use of individualized methods of instruction and the addition of one course "Intermediate Typing."

Swart (1979) noted the numerous demands on mainstreamed educable mentally retarded students at the Junior-Senior High School level. In addition to the academic support, these students often had poor self images and an over-dependence on adults for direction and approval.

A follow-up and comparison study was undertaken concerning educable mentally retarded graduates from the Dearborn, Michigan Public School System. Novotny (1974) noted that two types of programs (integrated and special class) showed that graduates from the integrated program had a better school attendance, held more full-time jobs, had higher occupational levels and salaries, were more likely to seek further education, were more prudent in money management, remained single more often, had better homes and participated more actively in community activities.

Reynolds and Birch (1978) contended that the least restrictive placement of handicapped children was "challenging the relationship of regular and special education" (p. 41), the result being the renegotiation of regular and special educators. Though the problems may loom on the horizon, the opportunities are great. These writers saw them as especially challenging to administrators as well as to university educational departments which must redesign both preservice and inservice programs to prepare all teachers for their responsibilities. Nonetheless important are the teachers themselves who will need to, in many cases, do a turn-about in their thinking from exclusion to inclusion.

Many were in total agreement with Birch (1976) who implemented a study on mainstreaming as an approach to special education from

which he drew conclusions. One of these stated that mainstreaming was the most desirable special education arrangement for almost all of the recognized categories or groups of exceptional children . . ." (pp. 15-16).

Reger (1974) proposed several principles to be followed when considering the return of pupils to the regular classroom. They were: evaluation by relevant instruments, avoidance of labeling, grouping of students to be based on defined needs, the implementation of the instructional program in cooperation with other teachers, consultation services including program techniques and management strategies, and the necessity that the leadership of the school should work together on total program implementation.

#### Programming Considerations

Based on various studies (Cegelka & Tyler, 1970; Gjessing, 1972; Sussman, 1974), there was evidence that mainstreaming has been done despite disagreement as to whether it is or is not the most effective program for the handicapped pupil. Perhaps an issue to next address relates to the way to best determine whether or not a child can be successfully mainstreamed. There appeared to be agreement among those concerned with this area that a district planning to mainstream or improve its present structure must give careful consideration to a number of issues. Beery (1972) offered nine criteria for viewing mainstreaming models previous to the adoption of one. His view emphasized interrelationships among building staff, schools and

colleges as well as children, and presumed that educators' continuous professional growth was essential.

Chaffin (1974) spoke to the topic, directing his suggestions to administrators who anticipate the initiation or expansion of a mainstreaming program. He listed several points to bear in mind with specific means for implementation. Special education leaders firmly believed that certain administrative practices were essential where mainstreaming had been successful. Principals were seen as primary representatives of the integration concept and without their cooperation, mainstreaming could be expected to have a difficult time. Hence, the firm establishment of the program concepts was viewed as necessary.

Reynolds (1973) suggested that strong consideration must be given to the evident advantage for the individual. This was to be contrasted with the administrative difficulties associated with having the student in the mainstream.

As Birch (1974) noted, mainstreaming meant shifting from the class to the individual as the basic unit around which special education was planned, organized, and conducted. An example of that was Iano's more flexible groupings with non-graded organization. Arent (1976) did not equate individualized learning with a one-to-one teacher-pupil ratio. Rather, she saw it as the adaptation for each student of needs assessment, planning for his/her skills achievement, and procedures to follow in order to reach the goals set for each learner.



As a result of Dunn's (1968) strong critique of special classes for the retarded, Beard and Maitre (1977) have presented four mainstreaming models. Perhaps the best known was proposed by Deno in 1970. His "Cascade of Services" model was an organizational model designed to tailor treatment to individual needs. Thus, children were no longer sorted according to group standards. The model suggested that the greatest percentage of students would be placed in the least restrictive or most integrated settings, while the most specialized educational environments were likely to be required by the fewest children. Deno recommended that the special education system be evaluated by the extent to which children who could not reasonably be accommodated in a good regular education program were being served and the degree to which children were progressing toward socially relevant goals.

In 1971 Lilly outlined a model to provide services to exceptional children with the policy that once a child was enrolled in a regular education program, administratively it was virtually impossible to sever that child from the program. This "zero-reject" system placed responsibility for failure on the teacher rather than on the child. The district would be required to offer extensive inservice training. The model would replace existing services with many former special class teachers being cast in new roles. A burden was placed upon training institutions since they prepare the instructional specialists Lilly envisioned as "experts" in all areas of behavior and curriculum management. These schools of higher education would also aid them in

the development of interpersonal skills necessary to successfully educate teachers.

A third model was Gallagher's (1972) contract model directed mainly toward mildly handicapped primary-age pupils. It involved a formal contract between school personnel and parents with specific goals outlined. The intervention program would be no longer than two years.

Lastly, Adamson and VanEtten (1972) published a "fail-save" model in response to Lilly's model. Their plan incorporated training aspects and included several alternatives. The system's failure to meet all children's needs was represented by the "fail." The system's adaptation to the student's individual needs was represented by the "save." Theoretically, the needs of the exceptional were better met because this model offered more instructional and program alternatives.

Beard and Maitre (1977) discussed present application of various aspects of these models. Deno's concept of a service hierarchy to exceptional students was a component of nearly all applied program types provided according to the severity of need. Lilly's emphasis on the inservice role of the special educator was noted in many models. Gallagher's (1972) formally contracted educational plans between student and parents were also present but often not developed through cooperative planning with the parents. The fail-save model of Adamson and VanEtten was implemented in New Mexico with only minor changes.

It was suggested in the literature that whatever organizational arrangement is to be implemented to facilitate the mainstream process, certain basic procedural components and criteria should be incorporated. Birch (1974) has discussed these, summarized as follows:

1. Diagnosis and assessment should utilize informal as well as standardized tests, with the results stated in educational terms relevant to the pupil's progress.

2. The placement process should be flexible to allow for continuous movement.

3. There should be a regular review and modification, when necessary, of the child's individualized program.

4. Parents should be involved in the case conference.

#### Attitudes of Educators

Allport's (1935) definition continued to be the one most frequently quoted in research on attitudes. He defined an attitude as "a mental or neural state of readiness; organized through experience, exerting a directive or dynamic influence upon the individual" (p. 798).

Schorn (1976), in discussing an attitude on mainstreaming, defined it as "a relatively enduring organization of beliefs about children with various degrees and types of handicapped conditions pre-disposing a teacher to accept or reject these children into the regular school program" (p. 11).

Repeatedly stated throughout the literature was the idea that positive attitudes of teachers comprised the most effective force for

special education. Birch (1974) suggested that the attitudes most conducive to mainstreaming success included:

1. Belief in the right to education for all children.
2. Readiness for cooperation between regular class and special education teachers.
3. Willingness to share competencies on behalf of pupils.
4. Openness to include parents as well as other professional colleagues in planning for and working with students.
5. Flexibility with respect to class size and teaching assignments.
6. Recognition that social and personal development can be taught, and that they are equally important to academic achievement. (p. 94)

There appeared in the literature also to be a number of concerns expressed by educators regarding the integration of exceptional children into the regular classroom. Many teachers feared it because they felt that they may not be able to meet the needs of different kinds of children. Sapon-Shevin (1978) suggested that some teacher stress could be eliminated by the organization of a classroom which made use of the shared and combined strengths of classroom members, rather than one that was totally teacher-centered. Peer tutoring and multi-age grouping could aid in shifting from competitive to cooperative organization. Earlier studies by Edelman (1966) and Yule (1963) examined teacher opinions about mainstreaming. Their findings indicated that teachers were more willing to accept the special-need child if the resource room teacher and other supportive service personnel were available.

Similar conclusions were drawn by Latane, Sanford and Walton (1974). They found teachers also to need information about handicapping conditions as well as materials and methods to meet the demands of these students, with supportive team members offering ongoing consultative follow-up of the initial diagnostic and needs assessment.

The value of supportive services to the regular teacher was investigated by Cantrell and Cantrell (1976). They found that of the 1078 first graders sampled, students at all levels of intelligence offered significant achievement score changes as a result of supportive service help.

Shotel, Iano and McGilligan (1972) conducted another study. It indicated, however, that even when supportive services were provided by resource rooms for integrated pupils, there were slight, if any effects on teachers' attitudes toward mainstreaming.

Overline (1977) reported on a California State Department of Education study of 264 educational personnel (regular and special class teachers as well as principals). Indications were that all educators sampled had positive attitudes toward the integration of exceptional children of all ten handicapping categories presented. Those with one or more years experience with mainstreaming tended to have more positive attitudes. Also, those from rural schools expressed more positive attitudes than their suburban and urban counterparts.

As funds become more of a concern in education, another difficulty anticipated was the increased teacher-student ratio. This will limit

rather than extend the additional teacher time demanded by the needs of the handicapped child. Karnes (1973) recommended trained para-professionals and the active participation of parents which serve to increase the adult-child ratio. Senior citizens were found in some areas to be of great support in providing for this, especially in the primary grades.

Gicking and Theobald (1975) described a study of 326 regular educators and 96 special educators. It showed little agreement on disposing of the self-contained class for the mildly handicapped.

In a keynote address presented to faculty and students at the University of Northern Iowa, writer and professor of education at the University of Minnesota Dr. Maynard Reynolds (1979) said that teachers believed the new federal law placed an additional burden on them in that they were not adequately trained to instruct handicapped children. He also said that they contended that mainstreaming resulted in their spending less time with the remainder of the class, thus depriving the other students of the full benefits of an education.

Some teacher attitude studies on mainstreaming were available at the elementary, middle school and secondary levels. One such study was undertaken by Morris and McCauley (1977) in Canada and the United States. The attitudes toward handicapped children and knowledge of program placement were measured. Results indicated that the elementary teachers were more positive in attitude toward integration than were the secondary teachers.

Weber (1977) conducted a survey of elementary and middle school teachers to examine basic knowledge about and attitudes toward

educable and trainable mentally retarded learners. They found that basic knowledge was limited. Less than half felt that children of both categories would benefit from mainstreaming. Most of the respondents did not perceive the responsibilities of the classroom teachers to include instructing these mentally retarded children in the regular classroom.

Lake (1978) explored the concerns of middle school educators. She found that the middle school educator had an openness to serving handicapped students but lacked adequate knowledge about the disabilities and related programs. Those educators did not perceive mainstreaming as successful. They did see diagnostic services and behavioral support as beneficial. Two main areas of concern were: (a) the amount of time needed to plan for special education students within general education classes, and (b) the difficulty in obtaining appropriate educational materials for the various achievement levels.

A report of project Teach Encouragement to Activate Mainstreaming (TEAM) was presented by Trotter (1977). Its object was to improve the attitudes and skills of seven regular secondary teachers serving 27 educable mentally or educationally handicapped students. It was concluded that the project resulted in significant changes of attitude.

Guerin (1974) showed that staff members more distant from the actual integration process such as central administration were consistently more positive in attitude than the staff closest to the mainstreaming effort--the teachers. This suggested that when a district anticipates the implementation of a mainstreaming program,

it may be desirable to appraise the concerns of its teachers and make an all-out attempt to provide for those needs in various ways--one of which could be through inservice training.

An interesting phenomenon resulted from an attitudinal study by Barngrover (1971) who found that of 50 educators (i.e., teachers, administrators and school psychologists) interviewed, the regular class teachers tended to favor continuation of the special class (self-contained) model, while administrators and school psychologists favored integration of the mildly handicapped.

Overline (1977) reviewed the literature on attitudes toward mainstreaming procedures, inservice training, resource rooms and support personnel, revealing the following:

1. A significant variance existed between suburban and urban principals in the acceptance of mainstreaming for various types of exceptionalities.
2. The attitude toward mainstreaming of special education personnel was correlated with that of the regular teachers in the same building appeared to be positively correlated.
3. Regular teachers' attitudes toward handicapped children and their mainstreaming into regular classrooms can be changed.
4. Many regular teachers express a bias toward self-contained classrooms over placement of handicapped children in regular classrooms.
5. Classroom teachers closest to mainstreaming efforts appeared less positive in their attitudes toward mainstreaming than personnel further from the classroom.
6. Inservice education for regular teachers appears to be an important component of successful mainstreaming efforts.
7. Support models such as the resource room and teacher consultant appear to be effective strategies in implementing mainstreaming. (p. 17)



Kraft (1972-73) emphasized the need for administrators to set the proper tone by helping teachers to understand that "the major challenge of education is coping with children, not getting subject matter through their heads" (p. 208). He indicated that initially, the field administrator must become involved and develop attitudes of his/her own which are supportive of integration. A true commitment to the philosophy will be detectable by the faculty members and strengthen the results of the effort.

Most authors in discussing mainstreaming efforts emphasized the potential problems associated with integrating exceptional children into classes whose teachers held negative attitudes toward mainstreaming. It is clear that mainstreaming is, and will continue to be for some time, controversial. Our empirical base is extremely limited and the data are affected by invalidities. However, it does seem that if mainstreaming is to be effective, significant changes in attitudes will be necessary.

#### Inservice Training

Generally, before major changes take place to supplant former procedures, individuals must not only be convinced that the new offers better results, but that the means are within that person's capacity for implementation. If that is viewed as worthwhile, there may be an altering of attitude as well as behavior. One underlying concern was aptly noted by Stannard (1976) when he suggested that teachers have been well taught that one of their professional duties was to identify and assist in the placement of exceptional children in special

education. It very well may be that this phenomenon represented an orientation toward exclusion rather than acceptance and inclusion. In that respect we have found a need for redefining this aspect of the educator's role. If so, this is a primary conditioning which must be subsequently undertaken.

Training and greater awareness of exceptional children and their handicaps have been seen to have an effect upon teachers' attitudes. Stephens and Braun (1980) reported on a study of kindergarten through eighth grade regular classroom teachers who were asked to respond to a questionnaire on the acceptance of emotionally handicapped, physically handicapped and educable mentally handicapped students into their classrooms. Results indicated that a significantly greater number of those teachers who had taken courses in special education were willing to accept the handicapped into their classes than those who had not taken such courses.

In addition to university classwork as a means of familiarizing teachers with the handicapped, direct and well-planned inservice training sessions have been found effective in aiding in attitudinal change on behalf of the integration cause. Summer, Saturday and evening workshops have offered opportunities for interaction, credit and familiarization with the positive aspects of mainstreaming. Allard, Dobb and Foos (1975) reported on a very successful nine-week summer workshop for elementary, regular, and special education teachers. Reactions were quite favorable with all agreeing that the experience was invaluable in helping them to understand that many

"unteachable" children can really learn. It also gave them confidence in their own abilities to work with children.

Glass and Meckler (1972) described a similar summer workshop, concluding that specific skills relative to the instruction of mildly handicapped children can be taught in a relatively short period of time. They recommended functional preparation with an emphasis on development and practice of specific skills in an involvement setting, over the more traditional university course taught at an abstract level.

Participation in an inservice seminar has been found to apparently produce changes in teaching behavior and the willingness of the teachers to apply what they had learned, according to Bradfield et al. (1973). Such took the form of role playing, discussion groups, and other group interaction which encouraged involvement of the members.

Hobbs (1975) outlined requirements for the teacher of children with special needs. He stated that the teacher should be equipped and trained in remedial educational principles and should appreciate the value of supportive service. The teacher should be prepared to handle any behavior problems that arise from frustration and failure. S(he) must thus be trained in psychological principles of counseling and educational guidance which in themselves require additional time and training.

In the literature it was implied that a better knowledge and understanding of exceptional children and their problems should help allay the fear and apprehension teachers experience when providing

for these students. Arent (1976) discussed a number of factors in building teacher self-confidence, starting with the reaffirmation of certain basic premises:

1. Exceptional children are basically more alike than unlike their peers.
2. Non-exceptional learners have problems which require special help.
3. The learner with exceptional problems has strengths that are not exceptional.
4. There is a continuum of talent among the pupils in any class or group in the building.
5. Traditional teacher-determined deadlines, uniform materials and competitive grading are not always responsive to the needs encompassed in the continuum.
6. Individualizing provides the tools for responsiveness.
7. The exceptional child in the classroom simply serves to reinforce an individualized instruction design for the successful school experiences for all pupils. (p. 3)

Inservice, according to Birch (1974), is an essential preparation for mainstreaming. He believes it important to give teachers the tools needed to work with handicapped pupils before these pupils are ever assigned to them. In the teacher retraining, an emphasis must be placed on the benefits accrued from consultation with supportive personnel in order for teachers to appreciate the receiving of such assistance for pupils with problems. Built into the training should be the essential of stating children's needs functionally or objectively--in measurable terms. Birch did not view one-session programs as effective. He strongly stated that the retraining program needed to be longer in order to be beneficial.

Numerous resources have been identified in this literature search which could be effective at all levels of inservice training. They ranged from kits, cassettes, films, project and inservice models to program presentations. One such presentation has been compiled by Aiello (1980). The script dealt with handicapping characteristics of exceptional people. Aiello has developed 13 life-sized child puppets with each possessing a specific handicap. The presentation, entitled "The Kids on the Block," involved puppet communication in diad or small group format. A 16mm film has been prepared and called "The Invisible Children." Not only is it available to schools and other interested groups, but it has been shown on the CBS television network. Ms. Aiello has taken her "traveling company" around the nation with outstanding success. This type of exposure effectively elicits identification with the characters and, at the same time, informs. Teacher inservice groups have found it a fascinating first step in preparation for mainstreaming.

Without exception, all authors have recommended preparatory training prior to the implementation of a program of integration. This was due to the necessity to identify and relate to teacher-felt needs as well as to instill positive attitudes and a feeling of self-confidence regarding competencies in teaching the exceptional child. The district just entering this area of integration will then want to give considerable attention to this aspect of readying their faculty members prior to even considering children for the program.

### Summary

Over the past decade there has been a marked increase in professional research on the topic of mainstreaming or integration, as well as a wide variety of resources made available to teachers, supportive personnel, administrators and parents. With the 1975 adoption of Public Law 94-142, the topic became fashionable. Although a few materials found were only tangentially related to the topic, there were, however, many sincere efforts to provide valid insights through addresses, professional papers and books.

A number of teacher attitude studies on mainstreaming were available, but relatively few were found at the secondary level. An extensive review of the literature yielded mixed conclusions with regard to the acceptance of mainstreaming by educators. To fully comprehend current efforts on integration, they must be considered within the progression of influential contributions of the past; viz., litigation, the professional press and legislation. Prevalent definitions of "mainstreaming" possess a common thread--handicapped children are to be educated, as much as possible, in the least restrictive setting with an appropriate, individualized program.

Arguments both opposing and favoring integration may be drawn from the literature. It should be noted, though, that the preponderance of the evidence supported mainstreaming and, despite lingering objections, its practice has been mandated by Public Law 94-142.

The initial success of any efforts at program alteration largely depends upon the receptivity of those expected to implement it. In

this case it will depend upon the attitudes of teachers and administrators. A number of studies have noted that some educators have voiced concerns regarding future services to exceptional children. Systematic research on this aspect of the topic was scarce. The majority of surveys assessing attitudes toward mainstreaming have been conducted among elementary teachers. Few efforts have been made to measure the degree of receptivity to integration of the handicapped into the regular classroom at the secondary level.

Specifically tailored education, e.g., inservice training, may be needed to alter teacher attitudes toward mainstreaming. Limited pioneering has been done in this area. Those currently embarking on mainstreaming programs have formulated some guidelines and criteria to follow, however. University classes and inservice training efforts have been ordered in some cases to familiarize educators with handicapping characteristics and strategies for effectively teaching the "special" child within the same environment as the "normal" or typical child. Suggested curricular content has also been outlined in the literature to guide those charged with its implementation. The question remained unanswered in the literature though as to how receptive secondary teachers will be to these suggestions and the whole mainstreaming issue.

## CHAPTER III

### RESEARCH DESIGN AND METHODOLOGY

#### Introduction

The culmination of educator and parental concern for the handicapped was Public Law 94-142, guaranteeing equal educational opportunities for all handicapped children. One component of the law spoke to the nature of programming as being in the "least restrictive environment" meaning "that most like the regular classroom setting which was appropriate for a given pupil."

The purpose of this study was to investigate the relationship of selected secondary teacher variables to teacher attitudes toward mainstreaming.

The following was studied: The relationship of the respondents' receptivity toward integration to such variables as classification of teaching assignment, level of educational training, gender, demographic setting, prior exposure to and integration with the handicapped, length of experience in education, and teacher-perceived awareness of the concept of mainstreaming obtained through preservice and inservice.

#### Selection of the Sample

The sample was obtained by computer at the Department of Public Instruction in Des Moines, Iowa. All Iowa secondary teachers were first stratified into three groups: regular class, special class and special education. From each category, 167 were then randomly



selected in order to equally represent each teaching classification and to obtain the desired total sample of 501 Iowa secondary (grades 7-12) teachers.

### Nature of the Instrument

The Teacher Preference Scale for Progressive Integration of Exceptional Children Questionnaire was used to measure secondary teacher attitudes toward mainstreaming mildly handicapped children into their classrooms. This instrument was developed for use in the dissertation process by Randy Dewar while working toward his doctoral degree at the University of Missouri. An initial 40 items, evaluated for face validity by two teams of judges, were eventually reduced to a 20-item instrument.

The Spearman-Brown Split-half reliability coefficient reported for the instrument was .777. The reported Coefficient Alpha reliability was .749. These results confirmed substantial reliability of the pool of items and supported their internal consistency. Two teams of judges evaluated the items for validity. Their acceptance of each item constituted the content validity of the total item pool. The instrument offered the preferred positive/negative balance with 11 positively stated items and 9 negatively stated items in a Likert-type design (Dewar, 1977).

### Instrument and Data Collection

The Teacher Preference Scale for Progressive Integration of Exceptional Children Questionnaire, originally used with an elementary

level educator sample, was adapted for use herein with secondary level educators by simply changing the word "elementary" to "secondary" where appropriate. The instrument as modified was assumed to be acceptable. A Likert-type, five-point scale was utilized in order that educator responses could reflect attitudes and perceptions ranging from "mostly disagree" to "mostly agree."

Accompanying the designated questionnaire was a seven-item Personal Data Questionnaire. The latter was an attempt to gain information on the following areas: classification of teaching assignment, degree held, gender, demography as to teaching placement, previous or current exposure to, or interaction with, the handicapped, years of teaching/educational experience, and perceived degree of exposure through university or inservice training to the topic of mainstreaming.

The questionnaire and data form (Appendices B and C) were mailed to the subjects with a cover letter requesting reply by October 1, 1979. Enclosed in each envelope was a stamped, self-addressed return envelope. Due to the excellent response, no follow-up letter to non-respondents was deemed necessary.

Upon receipt of the questionnaires, the forms were examined for completeness and legibility. Incomplete forms were eliminated with 353 or 70% of the questionnaires suitable for analysis. The response ratio varied by classification: of the 167 regular class teachers, 122 returned usable questionnaires (73%); 93 of the 167 special class teachers sampled returned usable questionnaires (56%); and of the 167

special education teachers queried, 138 returned usable questionnaires (83%).

The returns were then hand scored by first reversing scores on negative items (1, 3, 6, 7, 15, 16, 17, 18, 19), then summing the converted and positive item (2, 4, 5, 8, 9, 10, 11, 12, 13, 14, 20) scores. Each of the 20 questions had a scoring range from one to five. The 11 positive items totaled a maximum of 55 points and the nine negative ones 45 points, with 100 points being the maximum score which could be obtained on the instrument. The higher score represented the more positive attitude (greater receptivity) toward mainstreaming of mildly educationally handicapped children into the regular classroom. Likewise, the lower the score, the less the receptivity toward mainstreaming. The dependent variable then, secondary teachers' receptivity toward mainstreaming, was represented by the respondent's total score on the questionnaire (from 20-100).

#### Specification of Variables

The independent variables investigated were:

1. Classification of teaching assignment--regular class, special class (e.g., Art, Music, Physical Education), or special education teacher.
2. Level of educational training (degree held).
3. Gender (male or female).
4. Demography (rural, urban or mixed).
5. Prior exposure to and interaction with (a) handicapped person(s) (yes or no).

6. Length of experience in education (0-5, 6-10, 11-20, over 20 years).

7. The subject's perceived level of awareness (adequate, minimal or none) to the concept of mainstreaming through preservice and inservice training.

The dependent variable was the attitudinal receptivity of the subjects toward mainstreaming, indicated by the total score on The Teacher Preference Scale for Progressive Integration of Exceptional Children Questionnaire, the possible range of which extended from 20 to 100.

#### Data Analysis

The hypotheses stated in Chapter I indicated that this was basically a relational study. Herein, the dependent variable, an attitudinal receptivity score for each subject representing the degree of favorability toward mainstreaming, was related to each of seven selected personal characteristics to determine if subject receptivity to mainstreaming differed according to those independent variable classifications (e.g., male or female). In this way, a profile could be developed of the specific selected characteristics of secondary teachers most favorable to the concept of mainstreaming (e.g., urban, male, with 11-20 years teaching experience, etc.).

The procedures selected for data analysis were parametric in nature based on fulfillment of the following four assumptions:

1. Random sample--achieved through the sample selection procedure.

2. Normal distribution--supported by: (a) a sample as large as 354 and (b) informal inspection of overall and selected scattergrams.
3. Equal variances--supported by informal inspection of the pairs of standard deviations of groups compared in the study. The very similar standard deviations observed permitted the assumption of equal variances.
4. Interval level of measurement--supported by: (a) the use of the 'summing' procedure for indicating overall receptivity (achieved by multiplying the 20 items of the questionnaire times one through five Likert-type choices) sets up a continuum extending from 20 to 100. Such a continuum may be assumed to reflect an interval level of measurement. (b) An item analysis done in conjunction with validity and reliability procedures by Dewar supports the 'summing' procedure, again lending support for an interval level of measurement. (Sharp, 1979, pp. 144-145)

The one-way analysis of variance (parametric F test) (.01 level of significance) was selected as the initial analysis procedure in order to determine if there was a significant difference in the receptivity of secondary teachers in mainstreaming for the seven factors specified:

1. Teacher classification groupings--3.
2. Educational degree groupings--4.
3. Gender groupings--2.
4. Demographic groupings--3.
5. Groupings of difference in levels of previous exposure to and contact with the handicapped--2.
6. Teaching experience groupings--4.
7. Training contributing to understanding of mainstreaming groupings--3.

Secondly, a two-way analysis of variance (parametric F test) (.01 level of significance) was used to compare differences in

receptivity scores along two dimensions (e.g., using gender and teaching classification). Two-way ANOVA results were obtained to explore the relationship of pairs of variables to receptivity in an attempt to denote the combinations of characteristics which seemed to lend themselves to receptivity to mainstreaming. All 21 possible pairing combinations of variables were investigated in this regard.

A Duncan post hoc t-test for significance (.01 level) was then applied to individual pairs of mean scores to determine if a significant difference existed between any of the paired means. This was done for both the one-way (where appropriate) and two-way ANOVA procedures.

#### Limitations

A limitation which may have possibly affected the study was the use of the instrument originally designed for the elementary level teacher. The sole change of the word "elementary" to "secondary" where used in the questions comprised the total alteration of the instrument. Another questionnaire was not employed as there has been limited research at the secondary level of mainstreaming, and therefore, no more appropriate instrument was found.

CHAPTER IV  
RESULTS OF THE STATISTICAL ANALYSIS

Introduction

This study was undertaken to determine the correlates between the attitudes of secondary teachers toward mainstreaming related to the following factors--classification of assignment, level of educational training, gender, demography, prior exposure to (a) handicapped person(s), length of experience in education and teacher-perceived exposure to the concept of mainstreaming through inservice training.

To assess these correlates, seven null-hypotheses were formulated:

1. There is no significant difference in receptivity to mainstreaming among secondary teachers of differing classifications of assignment.
2. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied levels of educational attainment.
3. There is no significant difference in receptivity to mainstreaming between male and female secondary teachers.
4. There is no significant difference in receptivity to mainstreaming among secondary teachers employed in different demographic settings.
5. There is no significant difference in receptivity to mainstreaming between secondary teachers who have or have not had, prior exposure to and interaction with (a) handicapped person(s).

6. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied lengths of experience in education.

7. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied perceived degrees of awareness of the concept as was derived from their preservice and inservice training.

In accordance with the procedures outlined in Chapter III, the data were collected and analyzed in relation to the seven stated hypotheses. As these hypotheses indicate, this was a relational study. The study was a quasi-experimental, ex-post-facto post-test design in which analysis of variance was used to determine the significance of the association between selected independent variables and teacher attitudes toward mainstreaming. In such an analysis of variance, a statistic, the  $F$  ratio, was computed by comparing the relative convergence of opinions among members of a common classification to the relative divergence of attitudes between members of two or more classes thought not to share a stipulated characteristic. Only  $F$  ratios with  $p < .01$  were accepted as significant.

Participants in the study consisted of a stratified random sample of 501 Iowa teachers at the secondary level. Of each of the following, 167 were surveyed: regular class teachers, special class teachers (art, music, etc.) and special education teachers.



### Statistical Analysis

The Statistical Package for the Social Sciences (SPSS) Batch System was utilized. One-way analysis of results were computed. This was in order to determine if there was a significant difference among secondary teacher receptivity to the concept of mainstreaming when considering the seven factors specified. The Duncan post hoc t-test results were then obtained so as to seek to determine if a significant difference existed between any of the paired means.

Two-way analysis results were finally computed in an attempt to compare differences in receptivity scores along two dimensions (e.g., using gender and the number of years taught). Two-way ANOVA results were obtained to explore the relationship of pairs of variables to teacher receptivity. This was undertaken to determine the combination of characteristics appearing to be present in receptivity to mainstreaming.

### Presentation of Findings

The remainder of this chapter is organized as follows: First the hypothesis being considered is presented, immediately followed by a table consisting of the results of the one-way analysis for the independent variable under investigation. After each table, a brief discussion of the results is given. Next will be included a discussion of the results of the Duncan t-test. Lastly, the two-way analysis is presented in a similar manner but with the independent variables replacing the hypothesis.

### One-Way Analysis of Variance

$H_1$ : There is no significant difference in receptivity to mainstreaming among secondary teachers of differing classifications of assignment.

Results of the analysis when regular class, special class and special education secondary teacher groups were compared on their scores indicating attitudinal receptivity toward mainstreaming can be found in Table 1.

Table 1  
One-Way Analysis of Variance with Class as Independent Variable

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F Ratio</u>
Between groups	2	7076.7626	3538.3811	31.831**
Within groups	350	38,905.9531	111.1599	
Total	352	45,982.7148		

\*  $\frac{p}{p} < .01$   
 \*\*  $\frac{p}{p} < .001$

In the survey there were 122 regular class teachers, 93 special class teachers (art, music, etc.) and 138 special education teachers who responded.

The means of these groups on receptivity toward mainstreaming scores were 63.9508, 62.8495 and 72.6087 respectively.

Not totally surprising, there were differences among the three classifications of teachers. The analysis of variance yielded a

highly significant difference with special education teachers being more favorably disposed toward mainstreaming than were either regular or special class teachers,  $F(2, 353) = 31.831, p < .001$ . As a result, the hypothesis that regular class, special class and special education teachers would not differ on receptivity to mainstreaming was rejected.

$H_2$ : There is no significant difference in receptivity to mainstreaming among secondary teachers of varied levels of educational attainment.

Results of the analysis when groups of secondary teachers having a Bachelors, Masters, Educational Specialists and Doctorate Degrees were compared on their scores indicating receptivity to mainstreaming can be found in Table 2.

Table 2  
One-Way Analysis of Variance with Degree as Independent Variable

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F Ratio</u>
Between groups	3	665.2532	221.7511	1.708
Within groups	349	45,317.4536	129.8494	
Total	352	45,982.7031		

Note. Not significant at .01 level.

Responding to the survey, there were 190 secondary teachers holding Bachelor Degrees, 156 holding Master's Degrees, 5 holding Educational Specialist Degrees and 2 holding Doctorate Degrees.

The means of these groups on receptivity toward mainstreaming scores were 65.9053, 68.5577, 63.6000 and 66.0000 respectively.

The analysis of variance results showed that there was no significant difference among the four groups of teachers in their disposition toward mainstreaming,  $F(3, 353) = 1.708$ ,  $p < .01$ . As a result, the hypothesis that secondary teacher groups with varied levels of educational attainment would not differ on receptivity to mainstreaming failed to be rejected.

$H_3$ : There is no significant difference in receptivity to mainstreaming among secondary teachers of different gender.

Results of the analysis when male and female secondary teacher groups were compared on their scores indicating attitudinal receptivity toward mainstreaming can be found in Table 3.

Table 3  
One-Way Analysis of Variance with Sex as Independent Variable

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F Ratio</u>
Between groups	1	1103.6694	1103.6694	8.632*
Within groups	351	44,879.0898	127.8606	
Total	352	45,982.7578		

\*  $p < .01$   
\*\*  $p < .001$

In the survey there were 178 men and 175 women who responded. The means of these groups were 65.2921 and 68.8286 respectively.

Contrary to prediction, there were differences between male and female teachers. An analysis of variance showed that among the secondary teachers surveyed, females were more receptive to mainstreaming than were males,  $F(1, 353) = 8.632, p < .01$ . As a result, the hypothesis that secondary teacher male and female groups would not differ significantly on receptivity to mainstreaming was rejected.

$H_4$ : There is no significant difference in receptivity to mainstreaming among secondary teachers employed in different demographic settings.

Results of the analysis when teacher groups from urban, rural or both types of settings were compared on their scores indicating attitudinal receptivity toward mainstreaming can be found in Table 4.

Table 4

One-Way Analysis of Variance With Community as Independent Variable

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F Ratio</u>
Between groups	3	154.5891	51.5297	.392
Within groups	349	45,828.2546	131.3130	
Total	352	45,982.8438		

Note: Not significant at .01 level.

In the survey there were 190 teachers from urban areas, 125 from rural and 38 working in both settings who responded.

The means of these groups on receptivity toward mainstreaming scores were 67.1947, 66.8640 and 67.2162 respectively.

There were found to be no significant differences in receptivity among the three groups of educators having the specified teaching locations. The analysis of variance results yielded no significant difference with  $F(3, 353) = 0.392$ ,  $p < .01$ . As a result, the hypothesis that secondary teachers employed in different demographic settings would differ on receptivity to mainstreaming failed to be rejected.

$H_5$ : There is no significant difference in receptivity to mainstreaming between secondary teachers who have or have not had, prior exposure to and interaction with (a) handicapped person(s).

Results of the analysis when secondary teachers who have and have not had exposure to the handicapped groups were compared on attitudinal receptivity toward mainstreaming can be found in Table 5.

Table 5

One-Way Analysis of Variance with Exposure as Independent Variable

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F Ratio</u>
Between groups	1	1505.6385	1503.6384	11.834**
Within groups	349	44,342.4375	127.0557	
Total	350	45,846.0742		

\*  $p < .01$   
 \*\*  $p < .001$

In the survey among those who responded, there were 314 teachers having had exposure to the handicapped and 37 who had not.

The mean of these groups on receptivity to mainstreaming scores were 67.7675 and 61.0270 respectively.

Not as expected, there was a difference between these two groups of teachers. Those with prior exposure scored significantly higher on the receptivity dimension than did those without the exposure to the handicapped,  $F, (1, 353) = 11.834, p < .001$ . As a result, the hypothesis that exposure and non-exposure groups would not differ significantly on receptivity to mainstreaming scores was rejected.

$H_6$ : There is no significant difference in receptivity to mainstreaming among secondary teachers of varied lengths of experience in education.

Results of the analysis when 0-5, 6-10, 11-20 and over 20 years of experience groups were compared on their scores of attitudinal receptivity toward mainstreaming can be found in Table 6.

Table 6

One-Way Analysis of Variance with Years Taught as Independent Variable

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F Ratio</u>
Between groups	3	1033.8701	344.6233	2.676
Within groups	349	44,948.9922	128.7937	
Total	352	45,982.8594		

Note. Not significant at .01 level.

In the survey, the following teachers are classified thusly by their years of experience: 115 having 0-5 years, 93 having 6-10 years, 109 having 11-20 years and 36 having over 20 years.

The means of these groups on receptivity toward mainstreaming scores were 68.8000, 67.5484, 66.0550 and 63.1389.

There was no significant difference identified among the four groups who had varied lengths of experience in education. In this regard, the analysis yielded no significant difference,  $F(3, 353) = 2.676$ ,  $p < .01$ . As a result, the hypothesis that secondary teachers with varied lengths of experience in education would not vary in receptivity to mainstreaming failed to be rejected.

$H_7$ : There is no significant difference in receptivity to mainstreaming among secondary teachers of varied perceived degrees of awareness of the concept as was derived from their preservice and inservice training.

Results of the analysis comparing scores of secondary teacher groups having varied perceived degrees of awareness to the concept of mainstreaming can be found in Table 7.

In the survey of those secondary teachers who responded, 160 perceived themselves to have had adequate exposure, 145 minimal exposure and 48 no exposure.

The means of these groups on receptivity scores were 69.5562, 65.1034 and 64.5417 respectively.



Table 7

One-Way Analysis of Variance with Inservice as Independent Variable

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F Ratio</u>
Between groups	2	1856.4020	928.2009	7.362**
Within groups	350	44,126.4258	126.0755	
Total	352	45,982.8242		

\*  $\underline{p} < .01$   
 \*\*  $\underline{p} < .001$

Contrary to prediction, there were differences among the three groups of teachers. The results of the analysis of variance were significant,  $\underline{F} (2, 353) = 7.362$ ,  $\underline{p} < .001$ ; the more adequate the training teachers felt they had acquired, the more favorably inclined they were toward mainstreaming. Resultantly, the hypothesis was rejected that secondary teachers having varied perceived degrees of exposure to the concept would not differ in receptivity to mainstreaming.

In Table 8 is presented a summary of the one-way analyses of the data gathered concerning the seven null hypotheses. The table contains the  $\underline{F}$  value for each hypothesis, the probability of each  $\underline{F}$  value and whether or not the  $\underline{F}$  value was significant at the .01 level of probability.

Table 8  
Summary of the Analysis of the Data Gathered  
in Relation to the Seven Hypotheses

Hypothesis	F-value	Probability	Significance at .01 level*
H <sub>1</sub> : Receptivity to mainstreaming by teachers of differing classifications of assignment.	31.831	.0000	S
H <sub>2</sub> : Receptivity to mainstreaming by teachers of varied levels of educational attainment.	1.708	.1651	NS
H <sub>3</sub> : Receptivity to mainstreaming according to variation in gender.	8.632	.0035	S
H <sub>4</sub> : Receptivity to mainstreaming seen among teachers working in different demographic areas.	.392	.7585	NS
H <sub>5</sub> : Receptivity to mainstreaming by teachers with and without prior exposure to the handicapped.	11.834	.0007	S
H <sub>6</sub> : Receptivity to mainstreaming by teachers of varied lengths of experience in education.	2.676	.0471	NS
H <sub>7</sub> : Receptivity to mainstreaming among teachers of varied perceived degrees of awareness to the concept derived from preservice and inservice.	7.362	.0007	S

Note. S = Significant  
NS = Non-significant

### Analysis of Means

As a follow-up to the one-way ANOVA results, the Duncan multiple-range t-test was applied to selected pairs of mean scores to determine if a significant difference existed between any of the selected pairs. This was done only for the appropriate variables where significance was found and where three or more groups existed: the classification and inservice training factors. A post-hoc mean difference test for the other two significant factors (sex and exposure) was not necessary as there were only two groups for each factor, the mean difference, therefore, already having been tested during the one-way analysis of variance procedure. For elucidation purposes, an analysis of all the mean differences for all of the four significant factors now follows, regardless of whether tested during the one-way ANOVA or with Duncan's procedure.

Between special class (art, music, etc.) and regular class teacher groups, there was no significant difference noted through application of the Duncan multiple-range test ( $p < .01$ ). However, the special education teacher group differed significantly from both of the other two (Table 9) in that it had considerably higher scores indicating greater favorability to the concept of mainstreaming.

In the analysis of gender, male and female groups did evidence a difference in receptivity to mainstreaming with females significantly more receptive.

Table 9

Duncan T-Test with Classification as Independent Variable

Source	Mean Score	Standard Deviation
Regular class teacher	63.9508	11.0205
Special education teacher	62.8495	10.3545
Special education teacher	72.6087	10.2333*

\*  $p < .01$ \*\*  $p < .001$ 

As was found in the one-way ANOVA F-test, exposure to the handicapped showed that those with previous experience and interaction with the handicapped had significantly higher receptivity to mainstreaming scores than those without such exposure.

Between the group with perceived minimal training and the group with no inservice training on the mainstreaming concept, there was no significant difference in receptivity scores noted through application of the Duncan multiple-range test ( $p < .01$ ). The group believing themselves to have had adequate inservice training on the topic did differ significantly in greater favorability to mainstreaming from the other two (Table 10) in score.

Table 10  
Duncan I-Test with Exposure as Independent Variable

Source	Mean Score	Standard Deviation
Inservice Information:		
Adequate	69.5562	12.2832*
Minimal	65.1034	10.3934
None	64.5417	9.8736

\*  $p < .01$   
\*\*  $p < .001$

#### Two-Way Analysis of Variance

As a result of the above findings, the following question then arose: Could it be that any of the variables, particularly those found to be significant--classification, gender, exposure to the handicapped and perceived awareness through inservice, are interactive with any others? Therefore, a two-way analysis of variance was conducted with the following results:

Classification and degree. Results of the analysis when the independent variables, classification and degree, were compared on attitudinal receptivity toward mainstreaming can be found in Table 11.

When classification of assignment and degree are considered, classification of assignment accounts for a significant portion of the variance and degree does not,  $F(2, 353) = 29.829$ ,  $p < .001$ . It must be noted, however, that there is no evidence of interaction between classification of assignment and degree held,  $F(4, 353) = 1.171$ ,  $p < .323$ .

Table 11  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Classification and Degree)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Class	2	6636.992	3318.496	29.829**
Degree	3	225.485	75.162	.676
Two-way interactions	4	521.203	130.301	1.171
Class and degree	4	521.203	130.301	1.171

\*  $p < .01$   
\*\*  $p < .001$

When classification of assignment and degree are considered, classification of assignment accounts for a significant portion of the variance and degree does not,  $F(2, 353) = 29.829$ ,  $p < .001$ . It must be noted, however, that there is no evidence of interaction between classification of assignment and degree held,  $F(4, 353) = 1.171$ ,  $p < .323$ .

Classification and sex. Results of the analysis when the independent variables, classification and sex, are compared on receptivity scores may be found in Table 12.

When classification of assignment and sex are considered, classification of assignment accounts for a significant portion of the variance and sex does not,  $F(2, 353) = 26.651$ ,  $p < .001$ . Again,

there is no evidence of interaction between classification of assignment and gender,  $F(2, 353) = .036$ ,  $p < .001$ .

Table 12

Two-Way Analysis of Variance with Score as Dependent Variable  
(Classification and Sex)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Class	2	5974.695	2987.348	26.651**
Sex	1	1.499	1.499	.013
Two-way interactions	2	8.145	4.072	.036
Class and sex	2	8.146	4.073	.036

\*  $p < .01$   
\*\*  $p < .001$

Classification and community. Results of the analysis when the independent variables, classification of teacher assignment and the community in which they worked, were compared on their receptivity scores can be found in Table 13.

When classification and community are considered, as may have again been assumed, classification--regular class, special class (art, music, etc.) or special education--accounts for a significant amount of the variance,  $F(2, 353) = 32.568$ ,  $p < .001$ , while the kind of community in which the educators work does not. There is, however, no indication of interaction between classification and community,  $F(4, 353) = .336$ ,  $p < .001$ .

Table 13  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Classification and Community)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Class	2	7289.801	3644.900	32.568**
Community	3	367.518	122.506	1.095
Two-way interactions	4	150.625	37.656	.336
Class and community	4	150.625	37.657	.336

\*  $p < .01$   
 \*\*  $p < .001$

Classification and exposure. Results of the analysis when the independent variables, classification of teacher assignment and exposure to handicapped persons, were compared on receptivity scores can be found in Table 14.

When classification and exposure to the handicapped are considered, teacher classification accounted for a significant portion of the variance and previous exposure did not,  $F(2, 353) = 26.612$ ,  $p < .001$ . There is again, however, no evidence of interaction between classification of job assignment and teachers' personal exposure to the handicapped,  $F(1, 353) = 1.697$ ,  $p < .001$ .



Table 14  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Classification and Exposure)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Class	2	5876.434	2938.217	26.612**
Exposure	1	309.665	309.665	2.805
Two-way interactions	2	374.813	187.406	1.697
Class and exposure	2	374.812	187.406	1.697

\*  $\underline{p} < .01$   
 \*\*  $\underline{p} < .001$

Classification and years taught. Results of the analysis when the independent variables, teacher classification and the number of years taught, were compared on receptivity scores can be found in Table 15.

When classification and the number of years taught are considered, classification, as before, accounts for a significant portion of the variance and degree does not,  $\underline{F} (2, 353) = 27.850$ ,  $\underline{p} < .001$ . As before, there is no evidence of interaction between teacher employment classification and the number of years that they have taught,  $\underline{F} (6, 353) = .878$ ,  $\underline{p} < .001$ .

Table 15  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Classification and Years Taught)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Class	2	6228.449	3114.225	27.350**
Years taught	3	185.509	61.836	.553
Two-way interactions	6	589.387	98.231	.878
Class and years taught	6	589.390	98.232	.878

\*  $p < .01$   
\*\*  $p < .001$

Classification and inservice. Results of the analysis when the independent variables, teacher classification and perceived degree of awareness about mainstreaming derived from preservice and inservice training, were compared on receptivity scores can be found in Table 16.

When classification and inservice are considered, classification is the significant factor accounting for the variance and inservice does not significantly contribute,  $F(2, 353) = 24.082, p < .001$ . Once again, there is no evidence of interaction between teaching classification and perceived amount of awareness of the subject of mainstreaming through inservice,  $F(4, 353) = 2.203, p < .001$ .

Table 16  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Classification and Inservice)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Class	2	5300.309	2650.154	24.082**
Inservice	2	79.920	39.960	.363
Two-way interactions	4	969.871	242.468	2.203
Class and inservice	4	969.872	242.468	2.203

\*  $p < .01$

\*\*  $p < .001$

Table 17  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Degree and Sex)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Degree	3	687.860	229.287	1.815
Sex	1	1126.170	1126.170	8.913*
Two-way interactions	2	473.771	236.885	1.875
Degree and sex	2	473.770	236.885	1.875

\*  $p < .01$

\*\*  $p < .001$

Degree and sex. Results of the analysis when the independent variables, degree and sex, were compared on their receptivity scores can be found in Table 17.

When attained educational degree and gender of the teachers are considered, sex accounts for a significant portion of the variance but degree does not,  $F(1, 353) = 8.913$ ,  $p < .01$ . Once more, there is no evidence of interaction between the degree held by the teacher and his/her gender,  $F(2, 353) = 1.875$ ,  $p < .001$ .

Degree and community. Results of the analysis when the independent variables, degree and community, were compared on receptivity can be found in Table 18.

Table 18  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Degree and Community)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Degree	3	633.354	211.118	1.614
Community	3	122.577	40.859	.312
Two-way interactions	3	325.728	108.576	.830
Degree and community	3	325.728	108.576	.830

\*  $p < .01$   
\*\*  $p < .001$

When the degree held by the teacher and the community in which s(he) is employed are considered, neither degree nor community has a

significant main effect. A significant interaction also is not evident between the variables,  $F(3, 353) = .830, p < .001$ .

Degree and exposure. Results of the analysis when the independent variables, degree and exposure, were compared on receptivity scores can be found in Table 19.

Table 19  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Degree and Exposure)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Degree	3	595.893	198.631	1.569
Exposure	1	1441.211	1441.211	11.383**
Two-way interactions	1	64.812	64.812	.512
Degree and exposure	1	64.811	64.811	.512

\*  $p < .01$   
\*\*  $p < .001$

When the degree held and previous exposure by the teacher are compared, exposure has a main effect, accounting for a significant portion of the variable,  $F(1, 353) = 11.383, p < .01$ . Degree, however, is not significant as a main effect. There is no significant interaction between the two variables,  $F(1, 353) = .512, p < .001$ .

Degree and years taught. Results of the analysis when the degree held and the number of years taught were determined for main and interaction effects can be found in Table 20.

Table 20  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Degree and Years Taught)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Degree	3	1326.893	442.297	3.517*
Years taught	3	1695.461	565.154	4.494**
Two-way interactions	5	734.839	146.968	1.169
Degree and years taught	5	734.839	146.968	1.169

\*  $\underline{p} < .01$   
 \*\*  $\underline{p} < .001$

When degree and years taught are considered, degree has a main effect,  $\underline{F} (3, 353) = 3.517$ ,  $\underline{p} < .01$ , as does the number of years taught,  $\underline{F} (3, 353) = 4.494$ ,  $\underline{p} < .001$ . There is again, however, no evidence of significant interaction between the two variables, degree and years taught,  $\underline{F} (5, 353) = 1.169$ ,  $\underline{p} < .001$ .

Degree and inservice. Results of the analysis when the independent variables, degree and inservice, were compared on receptivity scores can be found in Table 21.

Inservice as a main effect was found to account for a significant portion of the variance,  $\underline{F} (2, 353) = 6.563$ ,  $\underline{p} < .01$ . Degree apparently was not a significant contributor to variance. There also was no evidence of interaction between the variables--degree and inservice,  $\underline{F} (4, 353) = 2.301$ ,  $\underline{p} < .001$ .

Table 21  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Degree and Inservice)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Degree	3	437.192	145.731	1.175
Inservice	2	1628.309	814.154	6.563*
Two-way interactions	4	1141.605	285.401	2.301
Degree and inservice	4	1141.604	285.401	2.301

\*  $\underline{p} < .01$   
 \*\*  $\underline{p} < .001$

Sex and community. Results of the analysis when the independent variables, sex and community, were compared on receptivity to mainstreaming can be found in Table 22.

When teacher gender and the type of community in which s(he) taught were considered, sex accounts for a significant portion of the variance,  $\underline{F} (1, 353) = 8.927, \underline{p} < .01$ . Community seemed not to have an appreciable effect on the variance. Again, there is no evidence of an interaction between the two variables--sex and community,  $\underline{F} (2, 353) = 1.240, \underline{p} < .001$ .

Sex and exposure. Results of the analysis when the independent variables, sex and exposure to the handicapped, were compared on mainstreaming receptivity scores can be found in Table 23.

Table 22  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Sex and Community)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Sex	1	1144.710	1144.710	8.927*
Community	3	195.623	65.208	.509
Two-way interactions	2	318.107	159.054	1.240
Sex and community	2	318.107	159.054	1.240

\*  $\frac{p}{p} < .01$   
\*\*  $\frac{p}{p} < .001$

Table 23  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Sex and Exposure)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Sex	1	977.571	977.571	7.852*
Exposure	1	1356.582	1356.582	10.896**
Two-way interactions	1	163.904	163.904	1.317
Sex and exposure	1	163.904	163.904	1.317

\*  $\frac{p}{p} < .01$   
\*\*  $\frac{p}{p} < .001$



When gender and previous exposure to handicapped persons were considered, both factors appeared to account for a significant portion of the variance: sex,  $F(1, 353) = 7.852, p < .01$ , and exposure,  $F(1, 353) = 10.896, p < .001$ . There is, however, no evidence of interaction effects between the two--sex and exposure,  $F(1, 353) = 1.317, p < .001$ .

Sex and years taught. Results of the analysis when the independent variables, sex and number of years taught, were compared on their scores indicating attitudinal receptivity toward mainstreaming can be found in Table 24.

Table 24

Two-Way Analysis of Variance with Score as Dependent Variable  
(Sex and Years Taught)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Sex	1	767.340	767.340	6.113*
Years taught	3	697.599	232.533	1.852
Two-way interactions	3	871.503	290.501	2.314
Sex and years taught	3	871.502	290.501	2.314

\*  $p < .01$   
\*\*  $p < .001$

When teacher gender and the number of years taught are considered, gender is found to account for a significant portion of the variance:  $F(1, 353) = 6.113, p < .01$ . There was again found to

be no evidence of interaction between the two,  $F(3,353) = 2.314$ ,  $p < .001$ .

Sex and inservice. Results of the analysis when the independent variables, gender and perception of mainstreaming awareness through training, were compared on receptivity scores can be found in Table 25.

Table 25  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Sex and Inservice)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Sex	1	553.667	553.667	4.470
Inservice	2	1306.474	653.237	5.274*
Two-way interactions	2	594.217	297.109	2.399
Sex and inservice	2	594.217	594.108	2.399

\*  $p < .01$   
\*\*  $p < .001$

When sex and inservice are considered, inservice accounts for a significant portion of the variance,  $F(2, 353) = 5.274$ ,  $p < .01$ . Sex apparently had no appreciable effect on the variance. There is no evidence of significant interaction between sex and perception of mainstreaming awareness derived from inservice,  $F(2, 353) = 2.399$ ,  $p < .001$ .

Community and exposure. Results of the analysis when the independent variables community type and exposure were compared on receptivity toward mainstreaming can be found in Table 26.

When demography of the teaching assignment and previous exposure to handicapped persons are considered, only exposure accounts for a very significant portion of the variance,  $F(1, 353) = 11.783$ ,  $p < .001$ . Once again, there is no evidence of interaction between community and exposure,  $F(2, 353) = .195$ ,  $p < .001$ .

Table 26  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Community and Exposure)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Community	3	168.066	56.022	.437
Exposure	1	1511.381	1511.381	11.783**
Two-way interactions	2	49.978	24.989	.195
Community and exposure	2	49.978	24.989	.195

\*  $p < .01$   
\*\*  $p < .001$

Community and years taught. Table 27 shows the results of the analysis when community type and years taught were compared on receptivity scores.

When the community in which the teacher is employed and the number of years taught are considered, there would appear to be no

appreciable effect on variance by either variable. Nor is there evidence of interaction between community and the number of years taught,  $F(6, 353) = .388, p < .001$ .

Table 27

Two-Way Analysis of Variance with Score as Dependent Variable  
(Community and Years Taught)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Community	3	228.0318	76.106	.583
Years taught	3	1107.664	369.221	2.826
Two-way interactions	6	304.036	50.673	.388
Community and years taught	6	304.036	50.673	.388

\*  $p < .01$   
\*\*  $p < .001$

Community and inservice. Table 28 shows the results of the analysis when community type and inservice training were compared on receptivity to mainstreaming scores.

When the type of community in which a teacher works and his/her perceived awareness of mainstreaming through training are considered, inservice training accounts for a significant portion of the variance,  $F(2, 353) = 7.580, p < .001$ . Community apparently had no significant effect on variance. Once again, there is no evidence of significant interaction between the two variables, community and inservice,  $F(4, 353) = .517, p < .001$ .

Table 28  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Community and Inservice)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Community	3	226.737	75.579	.594
Inservice	2	1928.631	964.315	7.580**
Two-way interactions	4	263.094	65.773	.517
Community and inservice	4	263.093	65.773	.517

\*  $\frac{p}{p} < .01$   
\*\*  $\frac{p}{p} < .001$

Table 29  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Exposure and Years Taught)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Exposure	1	1404.803	1404.803	11.111**
Years taught	3	959.553	319.851	2.530
Two-way interactions	3	14.466	14.822	.038
Exposure and years taught	3	14.466	4.833	.038

\*  $\frac{p}{p} < .01$   
\*\*  $\frac{p}{p} < .001$

Exposure and years taught. Table 29 shows the results of the analysis when the factors exposure to the handicapped and years taught were compared on receptivity scores.

When exposure and the number of years taught are considered, exposure would appear to account for a significant portion of the variable,  $F(1, 353) = 11.111, p < .001$ . The number of years taught seemed to have no appreciable effect on variance. There is no evidence of interaction between the two variables, exposure and years taught,  $F(3, 353) = .038, p < .001$ .

Exposure and inservice. Table 30 shows the results of the analysis when the independent variables exposure and inservice were compared on their scores indicating attitudinal receptivity toward mainstreaming.

Table 30  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Exposure and Inservice)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Exposure	1	834.389	834.389	6.748*
Inservice	2	1282.248	641.124	5.185*
Two-way interactions	2	403.178	201.589	1.630
Exposure and inservice	2	403.178	201.589	1.630

\*  $p < .01$   
\*\*  $p < .001$

When the exposure to handicapped and inservice training factors were considered, both variables appear to account for a significant portion of the variance,  $F(1, 353) = 6.748$ ,  $p < .01$  and inservice,  $F(2, 353) = 5.185$ ,  $p < .01$ . There is, however, no evidence again of interaction between the two,  $F(3, 353) = .038$ ,  $p < .001$ .

Years taught and inservice. Table 31 shows the results of the analysis when the independent variables years taught and inservice were compared on their mainstreaming receptivity scores.

Table 31  
Two-Way Analysis of Variance with Score as Dependent Variable  
(Years Taught and Inservice)

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Main Effects				
Years taught	3	691.251	230.416	1.842
Inservice	2	1513.799	756.900	6.050*
Two-way interactions	6	775.303	129.217	1.033
Years taught and inservice	6	775.303	129.217	1.033

\*  $p < .01$   
\*\*  $p < .001$

When the number of years taught and teacher-perceived awareness of mainstreaming through training are considered, the training factor accounts for a significant portion of the variance,  $F(2, 353) = 6.050$ ,  $p < .01$ . The number of years a teacher has taught appears not

to be a significant factor. There is, finally, again no evidence of appreciable interaction between years taught and inservice,  $F(6, 353) = 1.033, p < .01$ .

To summarize the previous content, no significant interaction was discovered between any two of the independent variables through two-way analysis of variance. In this regard, each factor appears to be statistically independent of each other factor as related to receptivity to mainstreaming scores.

In Table 32 is presented a summary of the two-way analyses of the data gathered concerning the seven independent variables. The table contains the degrees of freedom, the  $F$  value for each hypothesis, the significance of each  $F$  value and statement of interaction.



Table 32  
Two-Way Analysis of Variance Summary Table with  
Score as Dependent Variable

Independent Variable	<u>df</u>	<u>F</u>	Significance of <u>F</u>	Interaction
Class and degree	4	1.171	.323	No
Class and sex	2	.036	.964	No
Class and community	4	.336	.853	No
Class and handicap	2	1.697	.185	No
Class and years taught	6	.878	.511	No
Class and exposure	4	2.203	.068	No
Degree and sex	2	1.875	.155	No
Degree and community	3	.830	.478	No
Degree and handicap	1	.512	.475	No
Degree and years taught	5	1.169	.324	No
Degree and exposure	4	2.301	.058	No
Sex and community	2	1.240	.291	No
Sex and handicap	1	1.317	.252	No
Sex and years taught	3	2.314	.076	No
Sex and exposure	2	2.399	.092	No
Community and handicap	2	.195	.823	No
Community and years taught	6	.388	.887	No
Community and exposure	4	.517	.723	No
Handicap and years taught	3	.038	.990	No
Handicap and exposure	2	1.630	.197	No
Years taught and exposure	6	1.033	.404	No

Note.  $p < .05$ .

### Summary

The one-way analysis of data performed in relation to the seven hypotheses indicated that scores on the following independent variables were related to receptivity scores at the  $p < .01$  level:

1. Differing classification of teacher assignments (regular class, special class such as art, music, etc., and special education).
2. Gender (male and female).
3. Previous exposure to the handicapped (yes or no).
4. Pre-inservice information on mainstreaming (adequate, minimal or none).

The one-way ANOVA and post hoc mean difference tests yielded highly significant differences among the three classifications of secondary teachers, with those working in special education scoring significantly higher on the receptivity dimension than regular or special class teachers (music, art, etc.). No significant difference was found between the regular and special class teachers.

It was also found through the one-way analysis that those with previous personal contact with (a) handicapped person(s) scored significantly higher on the receptivity dimension than those without such exposure.

Noted also is the fact that the teacher group known as "adequately trained" (Inservice Training) scored significantly higher on the receptivity dimension than the other two groups known as "minimally trained" and "non-trained," who between themselves did not differ significantly.

Gender was found to display differences in teacher receptivity to mainstreaming scores, with women being significantly more favorable to it than men.

The three independent variables which were not found to show significant differences at the  $p < .01$  level were:

1. Varied levels of education attainment by teachers (bachelor's, master's, specialist's or doctorate degree).
2. Demographic areas of employment (urban, rural or both).
3. Length of experience in education (0-5, 6-10, 11-20 or over 20 years).

Thus, it appears that teacher receptivity scores are independent of: (a) various levels of educational degrees, (b) areas of employment assignment whether urban, rural or both, and (c) the various levels of educational on-the-job experience.

For all variables, and particularly for those found to be significant in the one-way analysis, an attempt was made through a two-way analysis (ANOVA) to determine whether or not the independent variables, when paired, would operate independently of each other. When considered with each of the six other variables, classification of teacher assignment in each case was found to be independent or not related to the other independent variables accounting for variance in receptivity scores.

Likewise, no significant interactions were found when the other three important variables (gender, exposure, and training) were paired with all the other variables. In fact, when all independent variables were paired with each other in 21 conditions, no instances of

significant interaction effects were discovered. All independent variables were found to be operating independently of each other in their relationship to receptivity scores.

CHAPTER V  
SUMMARY, CONCLUSIONS AND DISCUSSION,  
RECOMMENDATIONS AND IMPLICATIONS

Summary of the Study

Introduction and Purpose

The purpose of the study was to investigate the relationship of selected secondary school teacher characteristics to their attitudes toward mainstreaming in the educational setting. The study was significant in that it identified certain important characteristics of secondary teachers which were related to the concept of handicapped integration in the classroom. With that knowledge, it is hoped that appropriate school administrative planning might occur so as to better prepare the school staff for the effective implementation of mainstreaming.

The Problem and Hypotheses

The question which the present study attempted to answer was: Is the receptivity of secondary teachers toward mainstreaming related to the following factors--classification of teaching assignment, level of educational training, gender, demography of teaching site(s), prior interaction with the handicapped, length of experience in education and degree of information on mainstreaming derived from pre/in-service training.

In an attempt to answer the question stated above, seven null hypotheses were formulated:

1. There is no significant difference in receptivity to mainstreaming among secondary teachers of differing classifications of assignment.

2. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied levels of educational attainment.

3. There is no significant difference in receptivity to mainstreaming between male and female secondary teachers.

4. There is no significant difference in receptivity to mainstreaming among secondary teachers employed in different demographic settings.

5. There is no significant difference in receptivity to mainstreaming between secondary teachers who have or have not had, prior exposure to and interaction with (a) handicapped person(s).

6. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied lengths of experience in education.

7. There is no significant difference in receptivity to mainstreaming among secondary teachers of varied perceived degrees of awareness of the concept as was derived from their preservice and inservice training.

## Review of the Literature

Review of the literature revealed that although some studies had been conducted on teacher attitudes toward the integration of handicapped youngsters into "regular" classrooms, they were primarily sampling an elementary educator population.

Special education, historically speaking, has reverted from its earlier orientation, becoming less restrictive. Reynolds (1974) viewed it as more than a fad, but rather a reflection of the moral development of our society wherein greater concern, acceptance, and responsibility is taken for its members.

A commonly accepted definition of "mainstreaming" was not discovered. A mutual strand in mainstreaming designs was, however, that they included a provision that handicapped children should be educated as far as possible in the regular classroom for all or part of the school day, with steps to meet their special needs therein. When integrated classes include a range of abilities and skills, individualization is necessary. Bruninks and Rynders (1977) considered individualization, more than any other, to be the word which serves to symbolize mainstreaming.

Many critiques of the integration process were found, both supportive of and in disagreement with that concept (Reynolds & Birch, 1978; Spencer & Lohman, 1977; Swart, 1979). Despite disagreement on the matter, there were studies giving evidence that mainstreaming has been done for some time (Cegelka & Tyler, 1970; Gjessing, 1972; Sussman, 1974). The question then considered was what is the most effective programming to successfully mainstream

handicapped children? Regner (1974) proposed a number of helpful principles to be followed when considering the return of pupils to the regular classroom.

Four integration models were discussed by Beard and Maitre (1977) as well as other proposals. Whatever organizational arrangement is to be implemented to facilitate the mainstream process, Birch (1974) stressed certain basic procedural components and criteria which should be incorporated.

Many authors emphasized the potential problems associated with integrating exceptional children into classes whose teachers held negative attitudes toward mainstreaming. If mainstreaming is to be effective, significant conditioning must be undertaken through preservice and inservice training. Such may be implemented through various proposed means.

After the extensive literature quest, the question yet remained unanswered as to how secondary teachers will respond to numerous suggestions for effectively integrating the handicapped.

#### Research Methodology and Statistical Procedures

The population consisted of 501 Iowa secondary (grades 7-12) teachers stratified into three groups: regular class, special class and special education. From each category, 167 were then randomly selected, in order to equally represent each teaching classification.

The response ratio varied by classification with the following 353 usable questionnaires being returned: 122 (73%) from regular



class teachers; 93 (56%) from special class teachers; and 138 (83%) from special education teachers.

The instrument used in the study to measure the variables under investigation was The Teacher Preference Scale for Progressive Integration of Exceptional Children Questionnaire. A Likert-type, five-point scale was utilized in order that educator responses could reflect attitudes ranging from "mostly agree" to "mostly disagree."

Accompanying the Teacher Preference Scale was a seven-item Personal Data Questionnaire from which was derived information regarding the independent variables. The two questionnaires were mailed to the subjects along with a cover letter and a stamped, self-addressed envelope. The letter solicited cooperation and explained the need for the study.

Data received from the questionnaires were first subjected to statistical treatment by a one-way analysis of variance (parametric F test at the .01 level of significance). This procedure was selected to determine if there were significant differences in receptivity of secondary teachers to mainstreaming across various classifications of the seven factors specified. Secondly, the Duncan post hoc t-test results were obtained where necessary for testing mean differences.

Thirdly, a two-way analysis of variance (parametric F test at the .01 level of significance) was utilized to compare differences in receptivity scores along two dimensions (e.g., using demography and teaching classifications). Two-way ANOVA results were obtained to explore the relationship of all possible pairs of independent variables to receptivity in an attempt to determine if the

combinations of variables were or were not independent of each other in their relationship to receptivity.

### Results

Several factors were thought to be related to receptivity of secondary teachers to the notion of integration of handicapped children into regular classrooms. The results indicated that four of the seven factors considered were related to teacher receptivity in this respect. The primary objective of the investigation was to develop a profile of the specific selected characteristics of secondary teachers most favorable to the concept of mainstreaming. First, classification of teacher situation (regular class, special class such as art, music, etc., or special education) was found to be related to receptivity to mainstreaming. There were appreciable differences (significant at the  $p < .001$  level) among the three kinds of teachers. Special education teachers were significantly more favorably disposed toward mainstreaming than were either regular or special class teachers.

Secondly, those secondary teachers having had previous exposure to the handicapped exhibited a more favorable attitude toward integration of exceptional children. The data (significant at  $p < .001$ ) indicate that those having had personal contact scored significantly higher on the receptivity dimension.

Thirdly, the perceived degree of pre/in-service training accrued by secondary teachers was observed, as well, to be highly related to receptivity (at the  $p < .001$  level), with increased training

experience being associated with a more favorable attitude toward the mainstreaming concept.

Finally, gender was found also to relate highly (at the  $p < .01$  level) to teacher receptivity. Women were found to be significantly more favorable to the notion of mainstreaming than were males.

There were no significant differences found in receptivity across: (a) varied levels of educational attainment, (b) varied demographic working areas, and (c) various lengths of experience in education.

There were no cases of significant interaction effects for any of the 21 combinations of coupled independent variables, as noted from the two-way ANOVA.

### Conclusions and Discussion

Conclusions drawn from the study apply to: (a) secondary teachers, regular class, special class (art, music, etc.) and special education within the State of Iowa, (b) other secondary teachers across the country only to the extent that they resemble the Iowa sample of teachers in characteristics, and (c) only those variables selected for study in the investigation as measured by the instruments used in the investigation.

These considerations must be evaluated in light of the limitations reported in the study. Conclusions for males, females and the total sample must be considered in light of the total sample representing pooled data from the two sex groups. Specifically, it can be seen that data accrued from one of the sex groups (female) dominated the

pooled data leading to an overall significance which may be misleading.

By looking at the results of this study, one might draw a profile of some characteristics of secondary educators highly related to receptivity to this concept of mainstreaming exceptional children into the regular classroom. Each of the subsequent variables were related to attitudes--but apparently not equally. Those appearing to be the most related to teacher receptivity will be considered first with the others ordered downward according to a lessening strength of relationship:

1. Teacher assignment was very positively related to secondary teacher receptivity to the concept of mainstreaming handicapped students into the regular classroom. The special education teacher perceived the procedure more favorable than the other groups in the study. S(he) has probably had the opportunity of the preservice training in the types of methodology most effective for working with exceptional youngsters, coupled with experienced personal contact with these students through a practicum internship program. Also, (s)he has actually interacted with them on a day-to-day basis within the classroom, and with perhaps even more severely handicapped students than are at question in this study. Such previous experiences could bring about competence and confidence in dealing with them, thus reducing teacher reservations and fears about working with the handicapped. In this way it may be possible to avoid the unreceptive attitude toward mainstreaming by teachers inexperienced and untrained in special education. Moreover, it may be that for special education

teachers, mainstreaming would probably reduce the burden as opposed to increasing it for the regular and special class (e.g., music) educators. This decreased burden for special education teachers would again likely contribute to a more favorable orientation of the concept.

2. Previous exposure to the handicapped was also a very relevant factor in secondary teacher favorability to integration. By possibly eliminating the unknown and altering the misconceptions surrounding handicapped children, favorability may increase with familiarity while reducing prejudices. Hopefully, this may provide a more adequate basis for effective implementation of Public Law 94-142 requiring mainstreaming.

3. Pre/in-service training was, as well, a highly related factor to secondary teacher receptivity to the concept of handicapped integration. University classes and in-service workshops may increase familiarity and self-confidence in the understanding of exceptional youngsters and offer ways in which to work with them. One problem exists, however. Those who felt adequately trained were probably concentrated in the special education field. Inference cannot be made that ill-trained teachers should be assigned to special education classes but rather that concentrated efforts should be made to upgrade the feelings of adequacy among special (e.g., music) and regular class teachers, thus helping them to increase their positive feelings toward mainstreaming.

The above three teacher factors--classification, exposure to the handicapped and pre/in-service training--probably were tied to

familiarity with exceptional persons and the comfort level resulting from interaction with them. In this regard, the unknown element is eliminated and possible fears are removed. This contact, then, could well be the reason for the increased level of attitudinal receptivity when we viewed the integration issue. It is not known at this point, however, what those regular and special class (e.g. music) teachers, who have already had personal contact with the handicapped, may require to positively alter their receptivity to mainstreaming. Perhaps only supplemental classwork and/or inservice would be necessary to facilitate such an attitudinal change.

Apparently the nature of the exposure teachers receive is critical. Those educators who have had an emphasis on the exceptional child through classwork and practicum experience were more receptive to mainstreaming than regular and special class (e.g., art) teachers who focused primarily on the typical child. Thus, perhaps general education in its current status is not developing educators with a broadened, enlightened attitude toward integration. This may be a consideration for university teacher curriculum change in the future.

4. Gender was found also to lend itself to secondary teachers' favorable disposition toward mainstreaming. Women were more receptive to the concept of integration of the handicapped into the regular class. This greater female orientation to the concept may be partially explained by what some believe to be a culturally induced sensitive capacity in women. That is, they may tend to feel and evidence more caring which may have been translated into a willingness to help the handicapped through the integration process.

5. Varied levels of educational attainment (B.A., M.A., Ed.S. or Ph.D.) appear to have no real relationship to secondary teacher receptivity to mainstreaming. Contrary to that which might be assumed, the Specialists (Ed.S.) or Doctorates (Ph.D.) in the field who responded to this survey were no more receptive to the concept than were those teachers who had Bachelor's (B.A.) or Master's (M.A.) degrees.

Before completely rejecting the degree held by the educator as a possible correlate or determinate of receptivity, one must guard against contaminates in the data. Specifically, there seemed to be a problem of selectivity. Subjects were not under the control of the researcher nor randomly assigned to their teaching roles; rather, they were sampled from existing populations. That is, each population was a self-select group. While individuals favorably predisposed toward handicapped children are not precluded from teaching regular or special (e.g. music) classes, there is greater likelihood that such teachers will choose special education as their vocation. If this is the case, the receptivity may be a precondition of teaching special education rather than a consequence of any concomitant influence of subjects' pursuit of baccalaureate and advanced degree.

Regarding the data accrued from this study, it must be noted too, that the sample was quite disproportionate with respect to degree held. Almost 98 percent of those surveyed held Bachelors and Masters degrees leaving too few Educational Specialists or Doctorates for an accurate statistical analysis of their attitudes.

6. The nature of the community in which the subjects taught, rural, urban or both, did not appear to be associated with teachers' receptivity to mainstreaming. A difficulty in interpreting the communities' role is that those categories of teachers most receptive to mainstreaming are disproportionately concentrated in urban areas. This would tend to encourage one to wonder just what would have been the finding had there been a balanced sample in the three community categories designated.

One might ask whether the regular and special class (e.g., art) teacher might favor mainstreaming in rural communities where each teacher is more likely to be assigned a more diverse set of students (i.e., there are more readily grouped in one rural classroom students who, in larger urban systems, may be assigned to separate, regular and remedial track classes). Even if there has been no special training or prior contact with the handicapped, perhaps integration is less of a threat to this group of teachers because of built-in demands for versatility in the rural setting. Apparently not so, as the nature of the community did not appear to be associated with receptivity to this concept.

7. The length of educational employment experience alone had no apparent relationship to the secondary teachers' attitudes toward integration. Rather, it appears that either being female or the background of the educator may trigger an exposure to the handicapped effect. That exposure probably occurs in their coursework or by direct personal interaction, so as to reshape his/her attitude toward the issue.



### Recommendations

With a federal mandate for the handicapped of appropriate educational placement in the least restrictive environment, some students will be returned to the regular classroom. This "mainstreaming" procedure will burden the receiving teacher for several reasons. This concept has been viewed favorably by some and unfavorably by others. The issue has resulted in the current study which has attempted to isolate specific factors associated with secondary teachers' receptivity to handicapped integration. The results of the study were that teacher classification, previous exposure to the handicapped, inservice training, and gender positively related to increased receptivity to mainstreaming. The central interwoven theme for receptivity, then, appears to be familiarity and contact with the handicapped. Recommendations based on these findings will be discussed subsequently.

1. Since the teacher sets the tone for the interaction of children in any class, his/her attitude toward handicapping conditions and the exceptional child may greatly influence the adjustments they will make. This study has shown a strong relationship between teacher receptivity to mainstreaming and previous contact, or at least familiarity with the handicapped. Because the regular and special class teachers were least receptive to integration, it may be desirable to appraise their concerns and provide for them by holding preparatory training prior to the implementation of a mainstreaming program.

2. Pre-service training in mainstreaming on the part of the universities and colleges could be of considerable value in helping

all of their education graduates. Often only one course on the exceptional child is required for regular class teacher certification. A possibility might be to require that all regular classroom teachers be certified to teach Special Education. Included in the curriculum would be at least one practicum in Special Education.

3. Techniques to prepare teachers to understand the needs of exceptional youngsters in their typical classrooms may include such inservice training offering as the following:

- a. Reading about and discussing the various kind of handicapping conditions which they may possibly experience in the classroom.
- b. Viewing films and filmstrips about these children.
- c. Simulation activities (e.g., the blindfold walk through an obstacle course, eating blindfolded, use of a wheelchair, tracing a star by looking in a mirror (an example of a visual perceptual difficulty).
- d. Entertaining a deaf or blind child at school--getting to really know him/her.
- e. Visiting a parent involved group such as the Association of Retarded Citizens.
- f. Spending a day helping in a vocational rehabilitation center, self-contained classroom for the handicapped, or a residential home for the developmentally disabled or retarded.

It will be noted from the above examples that familiarity with exceptional persons has been derived through direct and indirect exposure to them, which has been seen to be associated with receptivity. Due to the fact that familiarity with a previously unknown element dispels fears, it is suspected that the greater the variety of experiences, preferably on an interaction basis, the more comfortable regular and special class teachers will become with the handicapped.

4. Current literature regarding the integration of exceptional children into the regular classroom suggests that regular and special class (e.g., music) teachers fear that they may not be able to meet the varying needs of these children. With the child as the main focus, it would seem necessary to develop and maintain educator commitment to the philosophy that every student is different and should be provided with an individualized program. This fact does not exclude the possibility of grouping various students together who are in need of common skills. It does, however, offer flexibility to allow the child continuous movement along this continuum of educational environments so that at any time the child would have the most appropriate and specialized services available with the least degree of restrictiveness. It must be stressed, however, that though they are different, handicapped youngsters are in reality, more like the normal child than they are different.

5. In order to elicit acceptance of mainstreaming by regular and special class (e.g., music) teachers, other means may be

considered to alleviate their concerns as well as to promote familiarity and receptivity:

- a. Administrators in charge of mainstreaming may need to structure formal routine communication between the regular and special class teachers, and the special education teacher. In so doing, techniques and ideas may more readily be shared by the person more familiar with the exceptional needs of the youngster. Moreover, the special education teacher may be viewed as an "expert" in this area of the child's need and thus, a source of moral support.
- b. An openness criteria is needed in which the parents, sometimes the students themselves, teachers, and other professional colleagues are involved in planning appropriate objectives and activities for the youngster. The compilation of several ideas coming from people who know the child from different settings can be an asset.
- c. Administrative flexibility may be a real encouragement to greater receptivity by receiving teachers. If the class size or teaching assignments were cut, for example, these decisions would recognize that individualizing the class structure takes both additional time and effort. These steps may be an inducement themselves to better serve students.
- d. Trained para-professionals and/or the active participation of parents in the educational environment will increase the adult-child ratio. Regular and special class (e.g. art) secondary teachers may have concern for the greater amount of

time that is required to help a handicapped student. The service of adult aides in the classroom may partially offer a solution to the time factor issue.

- e. Methodological techniques may be shared with regular and special teachers who have included handicapped students in their classes during the year. Their procedure might be exemplified by the following: In organizing a class, educators can utilize shared and combined strengths of its members rather than planning one which is teacher centered. In such an arrangement, the class may maintain a student government, peer tutor, grade each others' papers, and even make up some of the examinations as well as rotate routine responsibilities.

When a handicapped student becomes a member of the class, the normal procedures should not be interrupted, but rather the members ideally need to absorb the new child into their routine. Thus, the burden of the handicapped student does not fall predominately upon the teacher. In this way the educator should be less threatened by the addition of the new student to the class, and would hopefully feel more receptive of this change.

- f. It would seem that a contributor to regular and special class teacher favorability of the integration concept might be an assurance of the availability of appropriate materials and methods to meet exceptional pupils' needs. A resource person such as a curriculum coordinator, a media specialist, and/or

a special education teacher would be able to suggest and even provide texts, games, tape recorders, and other similar items to help in the day-to-day teaching process.

- g. When one feels prepared for a new experience, (s)he is usually more confident and receptive. Hopefully, this attitude would be true of the regular or special class (e.g., physical education) educator who receives exceptional pupils into the classroom. It is important also that the response of the receiving class to the new member be shaped and planned for. The teacher may be instructed to first positively orient the attitudes of the typical children in preparation for the enrollment of a mainstreamed child. This is a critical step and it may be best taken by the teacher who does not have any apprehensions (s)he may convey to the students.

Advantages may be derived for the regular class students in the mainstreaming process also. A few of the concepts which may emerge are: reduced prejudice, new understanding, helpfulness, satisfaction of curiosity, the overcoming of emotional handicaps and the acceptance of differences. When successful, the teacher will not need to be expending effort battling prejudice, since the typical students will become advocates for their new handicapped peers.

- h. As most teachers know, the nonprofessional staff of a school is very important. The cooks, custodians, and clerical personnel can serve as a backup and offer real support for the teacher of the newly mainstreamed pupil, aiding her/him to be more

favorably oriented to the concept of integration. These personnel must be included in the integration plans of a district.

Research has shown that regular class teacher attitudes can be changed toward handicapped children and their being mainstreamed into regular classrooms (Overline, 1977). Many of the previously mentioned recommendations are based on that precept. More experimental work needs to be done to determine how inservice training workshops and classes can be designed to effectively generate genuine attitudinal change. As long as teachers' attitudes are the critical link in the implementation of Public Law 94-142, fulfillment of the spirit of the act will probably not be achieved until more empirical research is conducted and then utilized in the design of teacher preparation.

#### Implications for Further Research

The population sample of 500 was quite ample for a project such as this research study. However, it is desirable to provide for greater generalization of the results of this study. Presently, the only groups of teachers to which the results of this research apply are regular class, special class, and special education educators from the State of Iowa. Therefore, a replication of this study might be done in other than midwestern states. In this way it could more accurately be determined as to whether the findings were consistent with those accrued from the Iowa survey.

When a district implements a program such as the one discussed herein, where the handicapped students are integrated into the regular

and special (e.g., art) classes, the first step would no doubt be taken at the administrative level. It is not known whether principals would automatically accept the concept anymore than teachers, although they of necessity would have to become primary promoters of the concept to both staff and community in order to assure success. Therefore, to determine similarities and discrepancies between attitudes of teachers and those held by the field administrators attempting to implement the law, a comparative study might be made of principals and instructional personnel of the same districts. With those findings, recommendations could then be made, if needed, so as to first strengthen administrators' receptivity to the concept before they attempt to influence and train their certified staff along those lines. Without the support of principals, mainstreaming may be expected to meet with limited success.

Unfortunately, inservice training is sometimes undertaken without first determining the areas of felt or assessed need of participants. As the concept of mainstreaming is one with which educators have varied degrees of familiarity, it is suggested that an investigation of the training needs identified by teachers at the secondary level would offer greater insight into the nature of inservice training most vital to successful integration.

It is hoped that altered preservice training would better prepare the new teacher entering the field of education to deal effectively with exceptional youngsters in her/his class. A study of secondary and elementary teachers would be beneficial to determine changes and/or additions to university curriculum most needed. Educators already on



the job could no doubt effectively identify teaching process areas which, if strengthened initially, would help to develop confidence and competence in working with the handicapped.

The possibilities of research options are almost limitless. Further research employing more sophisticated questions and an actual experimental design may yield even more powerful results. An added suggestion might be that investigators pinpoint the threshold of exposure teachers must have before embracing warmly the idea of mainstreaming. The determined degree of exposure to the handicapped would then be provided through either simulation activities and/or personal interaction before the teacher-pupil mainstreaming takes place. This would hopefully increase teacher receptivity and provide a more successful experience for both.

This study was conducted to provide information and insight into teacher receptivity to mainstreaming of handicapped students at the secondary level. There are numerous other such research ventures left yet to be undertaken relating to the federal mandate requiring education for the handicapped in the least restrictive appropriate environment. Each in its own way could contribute to more effectively meeting the educational needs of exceptional children in America today.

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APPENDIX A  
Cover Letter

Joan Barringer  
 2830 Saratoga Drive  
 Waterloo, Iowa 50702  
 September 17, 1979

Dear Colleague:

I need your help! I am a co-educator and a specialist degree student in Special Education at the University of Northern Iowa, Cedar Falls. For my thesis I am conducting a study of secondary teachers' attitudes toward mainstreaming. The focus will be on integrating into the regular classroom those students who have been labeled educationally handicapped.

I would greatly appreciate it if you would complete the Personal Data and Survey Questionnaires and return them in the enclosed stamped, addressed envelope. The responses you give will provide data to be used in my research.

Answering these questions will give you an opportunity to formulate and share your ideas on mainstreaming. Hopefully administrators and teachers will use this information to better cope with the challenge of mainstreaming these pupils into the regular classroom. It may evidence teacher-felt needs and offer alternate ways for handling the matter. Examples are: (1) additional time for planning; (2) smaller teacher-pupil ratio when handicapped students are in the regular classroom; (3) inservice and/or workshop opportunities may better acquaint teachers with the handicapped and offer means of dealing with them.

It will take approximately five minutes to complete the two forms. Your responses will be kept totally confidential. Please know that I am grateful that you will take the time from your busy schedule to help me. Thank you.

Respectfully yours,

Joan Barringer

Enclosures: Personal Data Questionnaire  
 Teacher Preference Scale  
               for Progressive Integration  
               of Exceptional Children  
               Questionnaire  
 Stamped, addressed envelope

Dr. Tom Little  
 Committee Chairperson

APPENDIX B

Teacher Preference Scale for Progressive Intergration  
of Exceptional Children Questionnaire

TEACHER PREFERENCE SCALE FOR PROGRESSIVE INTEGRATION  
OF EXCEPTIONAL CHILDREN QUESTIONNAIRE

POINT OF REFERENCE. For the purpose of this response form, the term "handicapped students" refers to secondary pupils who have been labeled mildly educationally handicapped and who require specialized programs of instruction, but who may benefit by placement in a regular classroom on either a partial or full-time basis. Examples include: (1) the physically handicapped student who is ambulatory with minimal assistance; (2) the person with a different primary language; (3) the one with mild intellectual deficit and (4) the student with perceptual problems, resulting in mild to moderate academic deficiencies. The severely handicapped should not be considered when completing this questionnaire.

DIRECTIONS. Please mark each statement by circling the numeral most closely identifying how strongly you agree or disagree with it. Please mark each item. There is no correct or incorrect response.

MD = Mostly Disagree; SD = Slightly Disagree; NO = No Opinion;  
SA = Slightly Agree; MA = Mostly Agree.

	MD	SD	NO	SA	MA
1. Academic progress of other students in the regular classroom is delayed with the inclusion of children having special education needs.	1	2	3	4	5
2. The teaching process needs only slight alteration if handicapped students are placed in the regular classroom.	1	2	3	4	5
3. It is not realistic to expect all pupils to learn to function independently.	1	2	3	4	5
4. Secondary teachers, with the support of specialists and special materials, are prepared to teach handicapped students.	1	2	3	4	5
5. Teaching students to recognize individual differences should be a part of the formal secondary curriculum.	1	2	3	4	5

Teacher Preference Scale (continued)  
Page 2

MD = Mostly Disagree; SD = Slightly Disagree; NO = No Opinion;  
SA = Slightly Agree; MA = Mostly Agree.

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 6. It is unrealistic to expect a classroom teacher to effectively work with a group having a wide range of ability.                      | 1 | 2 | 3 | 4 | 5 |
| 7. Separate special programs should be provided for students with special needs.   | 1 | 2 | 3 | 4 | 5 |
| 8. Parent involvement in the educational planning team will enhance their children's progress.   | 1 | 2 | 3 | 4 | 5 |
| 9. The regular classroom is physically safe for handicapped children.  | 1 | 2 | 3 | 4 | 5 |
| 10. Teaching about differences in ability between people will be enhanced by placing students with varying ability in the regular class. | 1 | 2 | 3 | 4 | 5 |
| 11. Effective teaching of students with learning problems does not require full-time special education placement.                        | 1 | 2 | 3 | 4 | 5 |
| 12. Social and personal development is equal in importance to academic achievement.  | 1 | 2 | 3 | 4 | 5 |
| 13. Handicapped students are more like normal children than unlike them.   | 1 | 2 | 3 | 4 | 5 |
| 14. It is realistic to expect public schools to appropriately program for all but the most severely handicapped children.                | 1 | 2 | 3 | 4 | 5 |
| 15. Teacher liability is a special concern when working with handicapped students.   | 1 | 2 | 3 | 4 | 5 |

## Teacher Preference Scale (continued)

Page 3

MD = Mostly Disagree; SD = Slightly Disagree; NO = No Opinion;  
 SA = Slightly Agree; MA = Mostly Agree.

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 16. Teachers would prefer to handle educational program planning individually rather than relying on a team approach.                 | 1 | 2 | 3 | 4 | 5 |
| 17. Handicapped students receive a more appropriate education in special classrooms.  | 1 | 2 | 3 | 4 | 5 |
| 18. Students prefer to be with other students having similar strengths and weaknesses.  | 1 | 2 | 3 | 4 | 5 |
| 19. Secondary teachers lose some of their academic freedom by involvement of colleagues in program planning for children.             | 1 | 2 | 3 | 4 | 5 |
| 20. There is little difference between the medical problems of handicapped students and those of other students within the classroom. | 1 | 2 | 3 | 4 | 5 |

APPENDIX C  
Personal Data Questionnaire



## PERSONAL DATA QUESTIONNAIRE

1. Primary classification (check one)  
 Regular class teacher  
 Special class teacher (P.E., Music, Art, etc.)  
 Special education teacher
2. What is your level of training? (check one)  
 B.A.  
 M.A.  
 Specialist  
 Doctorate
3. What is your sex? (check one)  
 Male  
 Female
4. Do you work in a school(s) district in a community which is (check one)  
 Urban (population over 2,500)  
 Rural (population under 2,500)  
 Both of the above
5. Have you previously (or presently) had interaction with a handicapped person(s)? (check one)  
 Yes  
 No
6. How many years of teaching/educational experience have you? (check one)  
 0-5  
 6-10  
 11-20  
 over 20
7. Have you been exposed to the topic of mainstreaming through inservice, workshops or courses? (check one)  
 adequate exposure  
 minimal exposure  
 no exposure