Preservice teachers' self-ratings of their competencies to teach in inclusive general education classrooms

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Preservice teachers' self-ratings of their competencies to teach in inclusive
general education classrooms

by

Kathy Jo Hinders

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

Major: Education (Curriculum and Instructional Technology)
Major Professors: Dale D. Baum and Patricia M. Carlson

Iowa State University
Ames, Iowa
1997

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Nothing can happen unless first a dream
-- Carl Sandberg

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ABSTRACT

Iowa State University currently offers two different and distinct preservice teacher preparation programs. The traditional program reflects a more conventional way of conveying important theoretical knowledge and necessary skills to preservice students. This traditional program consists of individual course requirements coupled with practicum experiences at strategic points in the curriculum. The new megamethods curriculum creates a unique blend between university coursework and practical experience in general education classrooms. Preservice teachers involved with this curriculum spend a larger percentage of their university class time within a general education classroom. The primary purpose of this study was to determine if preservice teachers at Iowa State University felt competent to teach in inclusive general education classrooms as they sequentially completed their individual curriculum coursework. In addition, this study examined preservice teachers' ratings, from both curricula, in regard to their ratings of sensitivity toward the needs of children in the general education classroom who have differing learning abilities.

The study utilized a non-static comparison group design and data was collected at the end of each methods course in the spring, 1996. The instrument used to measure preservice teacher ratings of their competencies to teach in inclusive classrooms was the Inclusive Classroom Teacher Behavior Rating Scale. This survey instrument contained items, or behaviors, the literature reported were necessary to implement in order to be successful in inclusive classrooms.

Results indicated preservice teachers completing the megamethods curriculum rated themselves as more prepared to teach in inclusive classrooms than preservice teachers enrolled in the traditional curriculum. Limitations and implications of this study are also discussed.
CHAPTER I
INTRODUCTION

During the 1980s an increasing number of investigators warned of the growing number of individuals labeled and placed in special education (Algozzine, Ysseldyke, & Christenson, 1983; Reynolds, Wang, & Walberg, 1987; Ysseldyke, Thurlow, Graden, Wesson, Algozzine, & Deno, 1983). Out of this concern came the proposal for, and consequently, the implementation of the Regular Education Initiative (REI). This initiative created opportunities for schools, districts, and states to begin looking at different, more efficient and effective ways to educate students with individual learning needs. Therefore, individuals who were in question of referral for special education services and those individuals currently receiving special education services were placed in the general education classroom for the majority, if not all, of their educational learning experience.

With this integration, roles of the special education teacher and general education teacher began to change. Special education teachers typically became consultants to general education teachers who then became responsible for the education of identified students and those who were referred for special education testing. In addition, collaboration between general and special education teachers is often required. This arrangement suggested special educators and general educators possessed the time and expertise to consult with each other. It further implied general education teachers possessed the time and expertise to implement individualized methodologies for students with varying educational needs.

Since 1990 the focus of REI has included both those students already identified for special education, as well as students who are identified for possible referral for special education services. This second group of students is known as the "at-risk" population. Much ambiguity continues to exist in regard to the definition of who is "at-risk" and who is not "at-risk". Some school districts are very precise in their definitions of what characteristics define children at-risk for school failure, while other districts' definitions are
so broad as to raise the question of whom does not fit into the category of being "at-risk". For the purposes of this study, "at-risk" students are defined as a body of underachieving students who have a high probability of being referred and tested for special education placement.

Some professionals in the field have transformed the REI movement into a theoretical basis for inclusion of all students into the general education classroom (Stainback & Stainback, 1984). The inclusionary model has been interpreted differently throughout the educational literature. Inclusion, as addressed in this study, refers to providing education to students with mild/moderate disabilities and students identified as at-risk within the general education classroom for the entire school day.

The nature of society today has impacted the kind of needs and services required of students found in the general education classroom. Indicators now point to the fact the population of students who are at-risk of needing special education services is on the increase (Reynold, Wang, & Walberg, 1987; Stevens & Price, 1992). Dwindling financial resources, violence in society, increase in drug abuse, and an explosion of information have impacted schools across the country (Haring, McCormick, & Haring, 1994). The numbers of children living in poverty has increased steadily; fertility rates among women at low income levels is higher than women at average or higher income levels (Reynolds & Lakin, 1987). Teachers report students identified as requiring extra assistance are more likely to live in poverty than children from families with greater economic resources (Crosby, 1993; Hodgkinson, 1993). Data on children in poverty correlate highly with the data on children from minority families, and the birth rate in minority families is relatively high (Crosby, 1993; Hodgkinson, 1993; Reynolds & Lakin, 1987). Educators need to be concerned about demographic and societal changes because proportionally, problems of poverty, racial imbalance, and maternal drug abuse are magnified in the population of children requiring additional educational assistance (Haring, McCormick, & Haring, 1994). Regardless of the changes in society and
demographics, the likelihood children will remain within the general education classroom is increasing (Stevens & Price 1992). This increase is due to the monetary issues of the cost per child to place in special services and the cost to educate each child within those services, coupled with legal and social pressures (Larrivee, 1986). Both current social and financial pressures require researchers, policy makers, and educators to question the operation of a dual system, i.e. special education and general education. An alternative solution being explored by policy makers and researchers is restructuring teacher preparation programs to dually certify new teachers in both general education and special education.

Infusion of special education content with general education content is not a new idea. Universities have tried this concept before; however, it is the process of this infusion that is of concern. Typically, when universities have "infused" content, it was with the addition of a course on special populations (Ayers, & Meyer, 1992; Patton & Braithwaite, 1990; Smith & Schinsler, 1980), commonly referred to as a class in exceptionalities. This type of infusion generally reinforced the idea individuals can be placed in neat and specific categories, and the category dictates particular strategies of instruction. Additionally, this kind of infusion magnified and reinforced the stereotype that individuals with varying abilities are significantly different from the norm of children typically found in the general education classroom. Finally, this type of infusion does not "accept" differences, rather it segregates individuals based solely on their differences.

An alternative mode of infusion could be to intersperse special education content into general education courses. This mode of infusion would happen throughout the content of and instruction in postsecondary education courses. Strategies enabling individuals with varying abilities to learn successfully in general classrooms could be included in an expanded curricula presented at the college and university levels. General and special education courses would not be separate and distinct, but rather intertwined. Preservice teachers taking beginning methods classes in general education need to learn how to modify curricular
content and adapt teaching styles to meet learner needs without sacrificing educational outcomes. Techniques promoting the integration of diverse individuals within the general education classroom would need to be demonstrated and communicated. If universities successfully infuse the content of general and special education into one teacher preparation program, students would then exit the program certified as general and special education teachers.

Students enrolled in preservice education programs need to be provided the opportunity to experience the diversity of children within a site-based general education classroom early in their educational experience. The goal of this experience would be to expose preservice teachers to the diversity of learners within the general education classroom and to modifications and techniques that are successful for all children in the inclusive classroom (Reed & Monda-Amaya, 1995; Villa, Thousand, Meyers, & Nevin, 1996).

If inclusion is to be successful for children who are at-risk or exhibit mild/moderate disabilities, teachers entering the field will need the skills of and knowledge about both general education and special education. An expansion of preservice teacher preparation curricula would alleviate the need for specialized resource programs as children with mild/moderate disabilities could now be educated in general education classrooms.

If colleges and universities embrace the idea of the need for general educators to be dually certified, universities can begin to prepare graduates of their programs to be equipped to deal with the individual differences found in most classrooms (Kearney & Durand, 1992; Payne, 1989-90; Pugach & Lily, 1984; Sachs, 1988; Stainback & Stainback, 1987). Until then, the message communicated is individuals who elect to teach general education do not possess skills required for individualization. This practice then promotes the increase of referrals for special education consideration and consequently increases the amount of time special education teachers will be required to collaborate with general education teachers. If educators are to be held responsible for educating included and at-risk students, then
appropriate preparation must precede this implementation (Swartz, Hildago, & Hays, 1991-92). Iowa State University offers an opportunity through an experimental program to study the differential effects of curricula content and related experiences on preservice students' competencies to teach children with different abilities within inclusive classrooms. The purpose of this study, therefore, was to examine the effects of a more traditional preservice education curriculum and the experimental curriculum offered at Iowa State University on preservice teachers' ratings of their abilities to teach children with various learning needs within the general education classroom. In addition, this study attempts to identify if either curricula has any effect on preservice students' sensitivity toward children with special learning needs.

The four research questions that frame this study are:

Question 1: How do students who complete the traditional curriculum sequentially, that is Block 1, Block 2, and Block 3, rate their competencies to teach students with different abilities following each successive course requirement?

Question 2: Is there a linear trend in preservice students' ratings of their competencies to teach students with different abilities as ratings were completed at the end of each curricular format?

Question 3: Do preservice students who have been prepared via a megamethods curriculum sequence rate their competencies to teach children with special needs who are included in the general education classroom differently from preservice students who have been prepared under the traditional curriculum sequence?

Question 4: Does the traditional curriculum sequence or the megamethods curriculum sequence cultivate more sensitivity in preservice students' ratings to teach students of different abilities?
The following chapters investigate the current literature and discuss the study implemented. Specifically, Chapter Two explores current literature associated with inclusion and teacher preparation programs. The methodology and results of the study are discussed in Chapters Three and Four respectively. Finally, Chapter Five discusses the findings of the study, limitations, implications, and conclusions.
CHAPTER II
REVIEW OF THE LITERATURE

Current literature regarding inclusion and characteristics required of teachers who elect to teach in inclusive settings is reviewed in this chapter. As a preface, a brief overview of legislation that have impacted special education is discussed, as well as changes special education has encountered as it moves to more inclusive services for students.

Legislation

Special education was an indirect outgrowth of the important court ruling on Brown v. Board of Education in 1954. This landmark case prompted educators to reassess the thinking of inherent inequalities of a segregated educational system. Although the Brown v. Board of Education dealt with racial issues within education, early advocates of special education borrowed tactics for the vision of special education from this significant court case and the Civil Rights movement (Gerrard, 1994). Tactics employed have been noted as the use of the legal system and the involvement of politicians and government to create change in both the policies that govern the education system and the practices upheld within the field (Gartner & Lipsky, 1987).

An outgrowth of the legal and political maneuvers spurred the development of Public Law 94:142, The Education For All Handicapped Children Act, in 1975. Although this law was changed in 1990 to include terminology associated with "people first" language, the term "handicapped" is used below to represent accurate wording of the law established in 1975. Public Law 94:142 mandated the following requirements be upheld: 1) All children ages 5 - 21, regardless of the nature or severity of their handicap, are provided a free and appropriate public education; 2) Handicapped children be educated to the maximum extent possible with nonhandicapped peers; 3) Special classes, separate schooling, or removal of a handicapped child occur only if the severity of the handicap impedes the education of the child within the general education classroom with the use of supplementary aids and services; 4) Each child
identified as having a handicap have an Individualized Education Program (IEP) to match their educational needs, and; 5) All children and their families be afforded the right to due process under the Constitution of the United States (Section 612B of PL 94:142).

The term "least restrictive environment" (LRE) was developed as a means of communicating the intent of PL 94:142. LRE includes three absolute mandates and three qualified requirements. The three absolute mandates state placements of students must be assigned individually and based on the IEP, the placement assigned to each student be reviewed annually, and each placement be selected from a continuum of alternative placements. The qualified provisions require students to be educated in their neighboring or neighborhood school, unless directed differently in the IEP; be educated with nondisabled students to the maximum extent possible; and be removed from the general education class only if education in that setting cannot be achieved satisfactorily (Bateman, 1992). A continuum of educational environments was then used to determine placement based on the individual's needs. A few of the environments identified from least restrictive to more restrictive are the general education classroom, pull-out resource programs, self-contained programs with integration, and self contained programs with no integration.

Due to the language used in the law to describe the LRE, much controversy centered on the best means of interpreting the intent of PL 94:142 (Fuchs & Fuchs, 1994; Hasazi, Johnston, Liggett & Schattman, 1994; Mather & Roberts, 1995; Roberts & Mather, 1995). Individuals advocating for inclusion of individuals with diverse abilities in the general education classroom argue the general education classroom is and can be the LRE for all students with proper supports and pedagogy (Stainback & Stainback 1984; Wang, Reynolds & Walberg, 1988). Not surprising, the controversy of LRE continues in the literature today—under the terminology of inclusion (Fuchs & Fuchs, 1994; Gerrard, 1994; Hallahan, Kauffman, Lloyd, & McKinney, 1988; Kauffman, 1993; Lewis, Chard, & Scott, 1994;

Section 504 of PL 93:112, The Rehabilitation Act of 1973, and its implementation regulations (1977) required districts to place persons with disabilities in the general education environment by district. This practice was required unless it could be demonstrated the education of the person in the general education environment with the use of aids and services could not be achieved satisfactorily (34C.F.R. 104.34(a)).

The passage of the Education of the Handicapped Act (PL 99:457) amendments in 1986 assured preschool children with disabilities the rights to a free public education. This legislation amends PL 94:142 to require states to provide appropriate public education to children, ages 3 through 5 years. This amendment also established a new state grant program for services to infants and toddlers with disabilities from birth through 2 years of age. Participating states would designate a lead agency in the planning of services, develop a plan and secure agreements for interagency participation, and ensure children and their families an individualized family services plan.

In October of 1990, the Individuals with Disabilities Act (IDEA), formerly PL 94:142, was implemented as a comprehensive articulation of federal policy concerning the education of and early intervention for infants, toddlers, children, and youth with disabilities. The amendments emphasized the idea of "people first" language through the change of terminology used in PL 94:142 from handicap to disability. The highlights of PL101:457 (IDEA), in addition to the mandates included in the PL 94:142, are transition services for individuals requiring special services by the age 16; additional categories of autism and traumatic brain injury; and the fact states are legally accountable to uphold the intent of the law and could be sued in federal courts for violations.
Public School Programs

Historically, special education was designed and implemented strictly as a system of self-contained programs where students were assigned to specified programs for a pre-established amount of time. In 1968, Lloyd Dunn advocated a change in this type of delivery system to include assistance to the general education classroom teacher (Wiederholt, Hammill, & Brown, 1993). As a result of Dunn's position, educators designed and implemented resource room programs for students qualifying for special services on a pull-out basis while receiving the majority of their education program in general education.

When educators began to categorize students for placement in specialized programs, schools began to create what is referred to as "disjointed incrementalism" (Reynolds & Wang, 1983). This term refers to what happens when a series of narrowly framed programs is launched one by one, each program well-justified in its own time and way, but based on the assumption it does not interact with others. This practice in turn produces excessive proceduralism, the tedious and costly means by which individuals are categorized in specific programs. The procedure of categorizing students for services is patterned after the medical model. This model first diagnosed a deficit area and then prescribed a special education program for ameliorating the deficit areas. The severity of a deficit determined the type of program individuals were assigned to for their education. In recent years, researchers in the field of education have tried to abolish this frame of reference in support of non-categorical special education programs (Wang, Reynolds, & Walberg, 1994/1995). This type of special education delivery service would identify individual students' strengths and weakness in order to build an individualized program that reflects these unique qualities. However, in essence, special educators have been utilizing this strategy for many years. Educators in the schools realize knowing an individual's classification according to an identified deficit area does not dictate specific methodologies for teaching (Stevens & Price, 1992). Special educators have always had to test for individual strengths and weaknesses and then design an
individualized education program based on the needs of the student and the curriculum of the
school. Therefore, the delivery system used in schools began to shift from a "program"
based system to a "service" delivery system. Instead of educators attaching labels to children
with educational needs and then assigning these children to existing programs, educators
began to look at the individual needs of students in order to match necessary services for
their educational successes. Currently, many educators are supportive of the idea of
educating all students in general education, thereby placing students with special needs back
into general education classrooms (Gottlieb, Alter, & Gottlieb, 1991; Reynolds, 1991; Skrtic,

Researchers have advocated for a "merger" between general education and special
education (Hobbs, 1975; Lilly, 1979; Reynolds, Wang, & Walberg, 1987; Stainback &
Stainback, 1984; Will, 1986). This proposal is based on the assumptions all children are
unique and cannot be distinctly classified as special or general (Stainback & Stainback,
1984); categories which classify students are neither valid nor reliable (Reynolds, Wang, &
Walberg, 1987); and classification processes for placement in special education services are
both time consuming and costly (Algozzine, Ysseldyke, & Christenson, 1983; Reynolds,
Wang, & Walberg, 1987; Shepard & Smith, 1981). This current duality of systems, i.e.
special education and general education, has created additional considerations. Research
designed to increase awareness in the educational field has unintentionally been addressed
and associated with one or the other system (Stainback & Stainback, 1984). Much research
is continuing to be conducted on the appropriateness of special education placement for
students with mild disabilities, yet this information is typically found only within the field of
special education.
Terminology

Part of the continuing struggle to improve educational delivery services deals with the multiplicity of terminology used to define those services (Roberts & Mather, 1995). Terminology most frequently found in the literature during the 1980's focused on mainstreaming, integration, and the REI. Mainstreaming appears to be the most prominent term to pass through education indicating the placement of students with disabilities in the general education or "mainstream" classroom according to academic and/or social strengths of the student involved (Kauffman, Gottlieb, Agard, & Kukie, 1975). This type of mainstreaming meant students with disabilities could benefit from instruction within the general education classroom for academic areas not previously identified as deficit areas and/or would be included in nonacademic experiences within the school community such as recess, lunch, physical education, art, and music.

Integration is used frequently as a verb in the literature to denote the practice of including individuals with disabilities within a less restrictive or the least restrictive environment (Roberts & Mather, 1995; Sawyer, McLaughlin & Winglee, 1994). Since the beginning of the special education movement, this terminology has been used interchangeably with mainstreaming. Today it depicts the practice of inclusion and the REI movement, i.e. the integration of students with diverse abilities within the general education classroom.

In the 1980's, researchers began warning the educational field of the growing numbers of individuals labeled and placed in special education (Algozzine, Ysseldyke, & Christenson, 1983; Reynolds, Wang, & Walberg, 1987; Ysseldyke, Thurlow, Graden, Wesson, Algozzine, & Deno, 1983). In addition to this concern, Will (1986) identified barriers to integrating students with disabilities into general education programs. Those barriers included large groups of children who were being characterized as "slow learners," "environmentally disadvantaged," or otherwise learning or behaviorally challenged; learning
disabled students were being overidentified; instruction in special education was unequal to
general education; and other educational models existed that served students with disabilities
more effectively. In addition to these statements, Stainback and Stainback (1984) proclaimed
there were not two distinct groups of children, normal and special. Based on this position,
Stainback and Stainback characterized the state of the educational system as unnecessary,
expensive, duplicative, and fostering competition between general and special education,
instead of cooperation.

Calls for reform ranged from proposals to develop a closer alliance with general
education (Reynolds, Wang, & Walberg, 1987) to totally dismantling special education
programs (Gartner & Lipsky, 1987; Lipsky & Gartner, 1987; Stainback & Stainback, 1984,
1987). One reform movement developed during this time was REI. This concept proposed
that individuals who were at-risk of being referred for special education placement and
individuals currently receiving special education be educated within the general education
classroom (Hinders, 1995). The focus of this movement was on the academic development
within the general education classroom of individuals who had special learning needs and
individuals who were at-risk of being referred for special services.

Currently, the debate on where students with special needs should be educated centers
around the use of the term "inclusion" and/or "full inclusion". Inclusion and full inclusion
have been used pervasively within the educational literature with a continuum of definitions
to describe its intent (Fuchs & Fuchs, 1994; Kauffman, 1993; Lewis, Chard, & Scott, 1994).
While inclusion and full inclusion have been identified as two separate terms in the literature,
they often are defined in similar ways. The range of definitions for both terms encompasses
the integration of students with mild/moderate disabilities within the general education
classroom for all or part of the school day to inclusion of any student with special needs
educated within the mainstream for all or part of the school day (Fuchs & Fuchs, 1994;
Although inclusion, however defined, does place an emphasis on academic benefits of the included student, as REI does, it can be different from REI in regard to the following two issues. First, success of included students within the general education classroom can be purely measured in terms of social benefits and second, the education of all included students with varying disabilities occur within their neighborhood schools. For the purposes of this study, inclusion will encompass the education of the mild/moderate population within the general education classroom for the entire school day.

The educational system has long debated the issue of "where" is the best place to educate children with differing abilities (Baker & Zigmond, 1990; Bateman, 1992; Braaten, Kauffman, Braaten, Polsgrove, & Nelson, 1988; Fuchs & Fuchs, 1988, 1994, & 1995; Hallahan, Kauffman, Lloyd, & McKinney, 1988; Kauffman, 1993; Lipsky & Gartner, 1987; Reynolds, Wang, & Walberg, 1987; Stainback & Stainback, 1984; Will, 1986; Zigmond & Baker 1994). Underpinning this debate is the way in which educators choose to describe the terminology used to define the various educational placement options. Much of the justification behind recommendations for specific educational placements is explained through interpretations of the historical legal events in the development of special education. Current educational reform movements tend to be supported through the personal positions of parents, educators, and researchers in the educational field who interpret the legal legislation in regard to how the "where" of educational placement is defined for the students with varying disabilities.
Inclusion

Within the past decade, questions have been raised regarding the structure, organization, and value of special education. Public Law 94:142 was created in order to help individuals experiencing difficulties in the general education classroom gain access to individualized education. However, the implementation of The Education For All Handicapped Children Act established a criteria for entrance into specialized programs. Will (1986) adamantly stated the pull-out system unknowingly created opportunities for students to "fall through the cracks", i.e. students who could benefit from individualized educational experiences, yet who do not qualify for such experiences. In reviewing the time lapse between the implementation of PL 94:142 and the state of affairs in the proceduralism in education today, Walker (1987) replies:

If the law has been massively successful in assigning responsibility for students and setting up mechanisms to assure that schools carry out these responsibilities, it has been less successful in removing the barriers between general and special education. It (PL 94:142) did not anticipate that the artifice of delivery systems in schools might drive the maintenance of separate services and keep students from the mainstream. (p. 109)

Will (1986) suggested the special education delivery system, which consisted of pull-out programs, were not successfully educating students with disabilities. Pull-out programs were criticized as segregating students, alleviating classroom teacher's responsibility for the successful education of identified students, and fragmenting the curriculum (Gelzheiser & Meyers, 1996). Will (1986) stated special education had, through the best of intentions, created a disservice to students who were in need of educational assistance, but who did not qualify for those special services. This proclamation created the beginning of the REI
movement, which in the late 1980's to early 1990's inspired what is now termed the inclusion movement.

Support for the inclusion of students with mild/moderate disabilities has centered around three basic premises. These are: 1) Economic feasibility of operating a dual system of education, i.e. special and general (Reynolds & Wang, 1983); 2) Subjective interpretation of the diagnostic criteria used to identify and place students in special education (Ysseldyke & Algozzine, 1983); and 3) Inadequacy of "pull-out" programs in meeting the educational needs of students entrusted to its care (Epps & Tindall, 1987; Idol-Maestas, 1983; Polloway, 1984). Proponents of inclusion state when students with disabilities are included within the general education classroom, expectations for learning are raised. Students of diverse abilities would no longer be presented a "watered-down" version of the curriculum as is used in the pull-out special education program (Wang & Walberg, 1988; Willis, 1994). Rather, general education teachers would adhere to the general curriculum with appropriate modifications and/or services. Finally, inclusion of students with disabilities within the general education classroom would instill appreciation of the unique qualities of every individual (Brucker, 1994; Willis, 1994).

Students placed in the general education classroom would still be afforded a variety of supports, but those supports would now come to the child instead of the child going to the supports (Brucker, 1994; Gerrard, 1994; Jenkins, Pious, & Jewell, 1990; Wang & Walberg, 1988). These types of support services implies a shift in the thinking about teachers' roles and how those roles are implemented throughout different school systems (Ayres & Meyer, 1992; Evans, Harris, Adeigbola, Houston, & Argott, 1993; Kauffman et al., 1995; Roberts & Mather, 1995; Van Dyke, Stallings, & Colley, 1995). General education teachers would now be responsible for the successful education of students with disabilities included in general education classrooms. The assumption behind this expectation is general education teachers possess the knowledge and skills to implement this new support service.
Individuals opposed to the practice of inclusion proclaim the idea of one educational setting being appropriate for all children as erroneous (Fuchs & Fuchs, 1994 & 1995; Kauffman, 1993; Kauffman, Lloyd, Baker, & Riedel, 1995; Smelter, Rasch, & Yudewitz, 1994). Critics of inclusion contend researchers have not explored the general education teachers' perspective on this practice. Researchers contend the necessary skills required to effectively implement this practice is lacking in the general education teachers' repertoire of instructional practices based on their preservice training; and general education teachers are truly not capable of meeting the needs of included students without available supports implemented within the general education classroom (Minke, Bear, Deemer, & Griffin, 1996). Concerns are also expressed regarding the loss of specialized instructional practices for students with disabilities (Leiberman, 1985; Mesinger, 1985). Researchers who advocate inclusion do so on the premise the location of the instruction, i.e. the general education classroom, impacts the benefits of the student (Gartner & Lipsky, 1989; Lipsky & Gartner, 1987; Stainback & Stainback, 1991), yet research on the effects of placement demonstrate this position to be unsupported (Hallahan, Keller, McKinney, Lloyd, & Bryan, 1988). Other researchers claim general education cannot be trusted to respect the needs of students with special instructional characteristics (Braaten et al., 1988; Byrnes, 1990; Hallahan et al., 1988; Kauffman, 1989; Vergason & Anderegg, 1989).

Current pedagogy cited as being effective for all students in inclusive classrooms has been implemented incorrectly according to O'Connor and Jenkins (1993). This type of implementation has unknowingly led to a lower success rate of learning for students of diverse abilities within the general education classroom. Kauffman (1993) argues there is no need to include special education students in the general education classroom to enhance learning, rather the central problem is that too many students are served in inferior special education classes. This problem is largely due to inadequate training and support to the teachers currently teaching in special education classrooms. Additionally, if more time was
allotted for special educators and general educators to collaborate on the education of children, outcomes of all students would increase. This idea conflicts with the inclusionist viewpoint by suggesting the problem does not lie within the structure of education, i.e. the delivery services of special education and general education, but rather with the teachers in charge of conveying educational material, whether those teachers teach in special education classrooms or general education classrooms.

Research does support the premise some special education students will benefit more in a special education classroom instead of a general education classroom (Carlberg & Kavale, 1980; Leinhardt & Pallay, 1982; Madden & Slavin, 1983; Zigmond, Jenkins, Fuchs, Deno, Fuchs, Baker, Jenkins, & Couthino, 1995). Evidence does exist which shows the included student with special learning needs does not fare as well in the general education classroom where undifferentiated, large-group instruction is the common practice (Mercer, Lane, Jordan, Allsopp, & Eisele, 1996; Schumm & Vaughn, 1995). McIntosh, Vaughn, Schumm, Haager, and Lee (1993) also report mainstreamed students in the general education classroom tend to display characteristics of "inactive learners", remaining on the periphery of academic and social involvement in both elementary and secondary classrooms. The research of McLeskey and Pacchiano (1994) concluded, even though the current practice is to include students with learning problems within the general education classroom, evidence suggests more students today are labeled learning disabled (LD) than would have qualified in 1979 and the majority of these students still spend the larger portion of their school day (60%) in some type of resource room setting.

Practicing Teacher's Perception of Inclusion

Typically the individuals who are most favorable toward inclusion bear the least responsibility for its implementation. Therefore, general education teachers who are the most responsible for the success of inclusion tend to be the most pessimistic (Scruggs & Mastropieri, 1996). General education teachers who currently teach in inclusive settings
recently expressed concerns regarding the current practice of inclusion (Schumm & Vaughn, 1995; Minke et al., 1996; Scruggs & Mastropieri, 1996). Schumm and Vaughn (1995) collected data from over 1,000 practicing teachers and 3,000 students on their perceptions of the practice of inclusion. Schumm and Vaughn identified four different issues associated with this current practice. They are: 1.) Classroom teachers report they lack the knowledge, skills, and confidence to plan and make instructional adaptations for students with special learning needs; 2.) Classroom teachers report special education teachers and reading resource specialists are invaluable in helping them plan and make necessary adaptations for students with special learning needs. However, due to time constraints these teachers are not readily available; 3.) Students prefer teachers who make instructional adaptations, however these adaptations are not used as often as students would like, and; 4.) When instructional adaptations are implemented in the general education classroom it is typically not a part of a systematic plan addressing the needs of identified students. Issues one and four are of importance to this study.

Issue one reported practicing teachers perceived their ability to make appropriate instructional adaptations for students with differing abilities within the general education classroom as insufficient. These same practicing teachers reported they lacked the knowledge, skills, and confidence required to make good sound educational decisions about instructional adaptations. Many of these teachers reported they felt their teacher preparation program had not included the necessary information on how to best teach students with differing abilities within the general education classroom. Identified practices suggested in basal readers found in general education classrooms where also examined and found to be extremely limited or misleading, leaving general education teachers on their own to design appropriate adaptations. If students with special learning needs are to be successfully included in the general education classroom it is imperative that individuals in charge of the environment feel competent to design instructional adaptations to meet their learning needs.
Issue four reported when general education teachers did implement instructional adaptations, these adaptations were spontaneous and not a part of a well thought-out plan for instructional delivery. Concern regarding this issue focuses on practicing teachers not intentionally creating planned opportunities for special students before instruction began. Students with special learning needs require a well thought-out, highly structured learning environment that incorporates appropriate instructional adaptations specifically matched to individual learning needs. These environments and adaptations do not happen incidentally, but rather through thoughtful consideration and informed educational decision-making.

In 1992, Schumm and Vaughn conducted a survey of general education teachers who were asked to rate their own perceptions and planning practices for teaching mainstreamed students in the general education classroom. Ninety-eight percent of teachers in kindergarten through 12th-grade rated their knowledge and skills in planning for general education students as excellent or good; only 39% rated their planning for mainstreamed as excellent or good. Overall it was reported general education teachers felt positive about having mainstreamed students in the classroom; however, the perception of their own competencies to teach students with disabilities was rated low. Modifications utilized in the general education classroom varied between the elementary level and the junior high and high school level (Mcintosh et al., 1993). Elementary teachers reported modifications typically used consisted of additional questioning or extended time allotted to complete seatwork, and junior high and high school teachers reported few, if any, modifications were made.

**Effective Teaching Behaviors For Teachers In Inclusive Settings**

A study implemented in 1986 by Larrivee strived to identify behaviors teachers exhibited to promote the success of students mainstreamed in general education. Her study found a total of fifteen teaching behaviors or strategies to be important for students in the mainstream; yet, three strategies in particular appeared to be required with greater frequency for special needs students. These strategies are providing positive and encouraging feedback,
ensuring a high success rate, and refraining from criticism. From this study, Larrivee (1986) identified four areas where these behaviors could be utilized in teacher preparation programs. These proposed units could be used to teach preservice students specific teaching behaviors to enhance the learning of students with special needs in the general education classroom. These units and teaching behaviors are:

1. Classroom Management and Discipline
   a. efficient use of time
   b. low incidence of intervention
   c. low use of punitive interventions
   d. lack of need for discipline
   e. infrequent student transition time
   f. low student off-task rate

2. Feedback During Instruction
   a. providing positive feedback
   b. giving "sustaining feedback"
   c. avoiding criticizing student responses

3. Instructional Appropriateness
   a. appropriate difficulty of tasks
   b. high rate of correct student response to teacher questions

4. Supportive Environment
   a. use of supportive interventions
   b. responding supportively to low-ability students
   c. responding supportively to learning problem behaviors
   d. infrequent usage of punitive response options (p. 177-78)

Larivee’s (1986) study, along with research on the components of each individual’s attitudes (Larrivee, 1981), should help institutions of higher education begin to infuse
concepts for teaching students with diverse abilities in the general education setting. Importance must also be placed on direct experience and contact with students with varying ability levels within the classroom for individuals preparing to teach. This type of preservice program would require an orchestration of placement sites geared specifically at looking at the class as a social unit. Currently, placement experience is viewed within a specified "content area" by the college level student.

Como and Snow (1986) conducted an exhaustive review of the research on the characteristics teachers exhibit when making adaptations in teaching to match individual student learning differences. They found the most frequently researched teacher behaviors for adapting instruction focused on the following skills: 1) amount of time spent with different students during a specified situation; 2) amount of time students are encouraged to spend with other students; 3) amount of time students are encouraged to spend time with media resources; 4) the number of questions teachers ask to assess learning; 5) the amount and type of feedback given to students, and; 6) the pace of instruction.

Using current literature and their own research, Como and Snow (1986) identified specific characteristics teachers demonstrate when adapting instruction to meet individual learner needs. These characteristics are:

1. Grouping Strategies for Instruction
2. Structuring Information (explanatory presentation of organized information)
3. Soliciting Information (monitoring and evaluating student learning)
4. Reacting to Student Responses (providing appropriate feedback)
5. Teacher Expectations For Student Learning
6. Manipulation of Organizational Structures of Class Groups
7. Learning Centers
8. Reward Structures
9. Vary Support Materials
10. Vary Level and Form of Questions Asked
11. Vary Reinforcement Given for Correct/Incorrect Responses
12. Awareness of Student Cognition and Motivation with Respect to Learning

Como and Snow (1986) report these characteristics general education teachers demonstrate are essential to effectively teach students with special educational needs. Como and Snow report research has not taken an extensive look at these identified teacher characteristics to date.

General education teachers are now accountable for the successful education of a changing student population. Skills required to successfully teach in this new environment have changed in order to accommodate the diversity of student learners found in the general education classroom today. Universities and colleges need to adequately prepare their own students to competently meet the challenges of the current educational system. Preservice teacher preparation programs must incorporate the essential knowledge and skills general education teachers need to make informed instructional decisions for all students found in the general education classroom today.

Teacher Preparation Programs

With the shift to inclusion, current practices for preparing general education teachers must be examined. Larrivee (1986) reported mainstreamed students who had their home base in the general education classrooms spent only 2.1 hours in special education per week, which translates into 8% of instructional time within a 25 hour school week. Therefore, the majority of instruction for these students was delivered in the general education classroom. Yet, if the educational system continues to operate as it has in the past, i.e. duality of systems, demographic variables, along with monetary issues a general education classroom that looks different today would be created. Individuals with mild disabilities or disruptive behaviors, along with children "at-risk" for school failure, will continue to spend the vast
majority of their time within general education classrooms (Hodgkinson, 1993; Stevens & Price, 1992). Therefore, teaching practices that advocate the success of both identified individuals and non-identified individuals should be examined in order to integrate this information into the curriculum for students enrolled in teacher preparation programs (Larrivee, 1986).

It has been reported many professionals do not believe general education teachers receive appropriate preparation to teach in inclusive classrooms (Mather & Roberts, 1995). Results of Scruggs and Mastropieri (1996) found the lack of improvement in teacher's perceptions of their preparedness to teach in inclusive classrooms suggests teacher preparation programs are no more effective today than they were more than two decades ago. The increasing diversity of learners in the general education classroom requires more variety in instructional practices. Instruction aimed at advancing a single paradigm of teaching occurs almost exclusively at the university level, and these singular extremes are seldom found in the general education classroom (Mercer et al., 1996). Educators and future educators must not only master a variety of teaching methods, they must also know how and when to use these methodologies (King-Sears & Cummings, 1996).

To date, many colleges and universities offer two distinct systems; one for general education and one for special education. The adequacy of this model for teacher preparation has been questioned in light of inclusion (Sapon-Shevin, 1987; Stainback & Stainback, 1984). When content of special education coursework for preservice general education students was examined, it was found many instructors at colleges and universities placed the greatest emphasis on the characteristics of students with special needs and very little coverage of methodologies for improving instruction (Reed & Monda-Amaya, 1995). An investigation of the emphasis placed on specific topics within categorical and noncategorical course content was completed by Fender and Fiedler (1990). Their findings report most courses were traditional in emphasizing the characteristics of students with differing abilities.
Issues associated with mainstreaming ranked second in coverage and collaboration ranked eleventh in its curricular emphasis. With the current change in teacher roles to include a more collaborative partnership between general and special educators, the skill of collaboration is necessary (Villa et al., 1996).

The prevailing beliefs evident at the college and university level regarding how students should be educated greatly impacts the content delivered in courses. Beliefs held by instructors of college and university classes regarding how students should be educated are less likely to self-correct when inappropriate, and these same instructors typically do not challenge their own students to develop an informed, personal position regarding this educational issue (Reed & Monda-Amaya, 1995). If the REI and inclusion trend is to be successful, instructors of teacher preparation programs must re-align their own beliefs concerning this issue and reevaluate the skills they have established as criteria for graduation of students within their teacher education programs.

Teacher Education for Inclusion

Special education students should be viewed as multifaceted individuals, each bringing unique life experiences to the classroom. Education should focus on the differences in all individuals instead of restricting or prescribing experiences for specific individuals. The "Right Without Labels" idea put forward by the National Coalition of Advocates for Students, National Association of School Psychologists, and National Association of Social Workers states "...it would be desirable at this time to conduct programs wherein efforts are made to serve children who have special needs without labeling them or removing them from regular education programs..." ("Rights Without Labels," 1987, p. 22). Instead of refining a current educational system that is separate and segregated, a change should be put forth to create a general education system that is sensitive, flexible, and responsible for the education of individuals with varying ability levels (Lipsky & Gartner, 1987). Currently, educators are philosophically saying students with mild/moderate disabilities and students who are "at-
risk" for future failure can be successfully educated in the general education classroom. The assumption then follows individuals in charge of these environments have a full understanding of what students with special needs require, and these same individuals possess the knowledge and skills to individualize instruction to meet those needs (Swartz, Hidalago, & Hays, 1991-92).

Many studies have been conducted to determine attitudes of general educators and their willingness to work with individuals with disabilities or with individuals requiring extra assistance in their classrooms. As with many human traits, "attitudes" are multifaceted. They encompass many factors such as information level, knowledge attainment, specific skill acquisition, and contact and experience with individuals with exceptionalities (Larrivee, 1981). Using these components of an individual's attitude, the success of mainstreaming may be determined more by a teacher's perception of his/her ability to teach children with differing abilities than any other administrative decree or content modification (Larrivee, 1981), and general education teacher's knowledge and abilities to implement this type of delivery service is weak (Blanton, Blanton, & Cross, 1994; King-Sears & Cummings, 1996; Mercer et al., 1996; Reed & Monda-Amaya, 1995; Schumm & Vaughn, 1995; Scruggs & Mastropieri, 1996; Villa, Thousand, Meyers, & Nevin, 1996). Attitudes of individuals involved in teaching can unintentionally encourage the development of a separate and segregated education system. In addition, how the education system chooses to educate students can be thought of as an indicator of how much educators care about students (Lipsky & Gartner, 1987). Edmonds (1979) writes:

We can whenever and wherever we choose successfully teach all children whose schooling is of interest to us. We already know more than we need in order to do this. Whether we do it must finally depend on how we feel about the fact that we haven't so far. (p. 29)
There have been problems identified with mainstreaming and the idea of inclusion that in turn reduce its effectiveness (Longo, 1982). However, analysis of these shortcomings are not embedded entirely in these concepts alone, rather, in the implementation of its tenets in individual schools. Factors associated with "attitudes" of individual teachers influence the success of these concepts (Leyser & Abrams, 1984). In Gans' (1987) study of general educators' and special educators' demographic and attitudinal variables which may impact their willingness to work with individuals with disabilities, results indicated teachers' perceptions of their lack of current level of expertise was a recurring theme. Additionally, general educators' willingness suggests an environmental approach to improving attitudes may prove beneficial. An environmental approach would provide preservice general education students the opportunity to interact positively with students with special needs within the general education classroom thereby improving their attitudes toward the instruction of these students (Minke et al., 1996; Reed & Monda-Amaya, 1995). Practicing teachers' attitudes toward inclusion have reportedly improved after direct experience with this population and direct experience in the inclusive classrooms (Villa, Thousand, Meyers, & Nevin, 1996). These findings support the notion if inclusion of students with varying abilities is to be successful, teacher preparation programs must provide opportunities for general education majors to have contact and experience with students of diverse abilities, in conjunction with specific knowledge and skill acquisition for working with a wide spectrum of ability levels in each classroom. As teacher preparation programs typically do not integrate extensive special education content, or require extra courses in individualizing education to meet specific needs (Swartz et al., 1991-92), there logically becomes a need to provide general educators with a foundation on which to build their repertoire of skills to successfully educate these individuals. This restructuring cannot begin at the school system level, but must first be supported through the formal training of preservice teachers who elect
to teach in general education classrooms (Mather & Roberts, 1995; Reed & Monda-Amaya, 1995; Sachs, 1988; Stainback & Stainback, 1987; Swartz et al., 1991-92).

Implications for Teacher Preparation Programs

Two broad categories of educational goals exist in our schools today. These are individual goals and common goals. Individual goals include the choices in educational course work in middle school and high school students and parents are encouraged to make in order to serve personal interests. Coursework selected by the student and parent is typically aimed at later career opportunities.

Common goals are imposed by society as necessary competencies and knowledge every individual needs to possess in order to be a contributing member of society (Corno & Snow, 1986). Diversity among learners makes the obtainment of common goals more complicated, especially among students identified as at-risk or mildly/moderately disabled (Fenstermacher & Goodlad, 1983). Schools and teachers have always been asked to successfully teach students in order for them to attain the common goals of education identified for all individuals. This task becomes more critical within the current general education classroom. In order to effectively teach all students in general education classrooms, today's teachers are now required to utilize a wider variety of strategies and techniques. These strategies and techniques are necessary to meet the challenges of the diverse population of learners found in today's general education classrooms.

Particular skills required of successful practicing teachers have always included the ability to directly teach specific knowledge and skills in order to further develop individual students' competencies. This ability requires the teacher to develop ways to circumvent areas of individual student weaknesses. When teachers successfully circumvent specific student deficit areas they provide the opportunity to teach skills specifically to a student's individual strength area(s). Of interest to this study is the preservice students' ratings of their ability to circumvent areas of individual student weaknesses. The very tenets of REI and inclusion
create more demands on the teacher's abilities to modify teaching techniques and strategies to focus on a wider range of individual student strengths and abilities. A teacher with the ability to adapt instruction possesses the skills and knowledge to provide alternative instructional routes to the common goals (Glaser, 1977). Adaptive teaching, then, is defined as:

...teaching that arranges environmental conditions to fit learner individual differences. As learners gain in aptitude through experience with respect to the instructional goals at hand, such teaching adapts by becoming less intrusive. Less intrusion, less teacher or instructional mediations, increases the learner's information processing and/or behavioral burdens, and with this the need for more learner self-regulation. As the learner adapts, so also must the teacher. (Corno & Snow, 1986, p. 621)

Conclusion

Legislation has directly impacted how special education services are delivered to students with special needs. Historically, special education was designed as a program-based service. This type of special education delivery system has changed today to provide special education services to students who require educational support within the general education classroom. In order for this type of delivery system to be successful, preservice teachers who elect to teach in inclusive general education environments must demonstrate teaching skills and strategies that will enhance the success of the included student. Colleges and universities must examine the curriculum used to teach today's preservice teacher in order to create a curriculum that reflects the needs of all individuals, teachers and students alike, who are included in the new general education classroom.
CHAPTER III
METHODOLOGY

The purpose of this study was to assess preservice students' ratings of their competencies to teach students with differing abilities within inclusive general education classrooms under two differing preparation formats. Specifically, do preservice teachers differentially rate their competencies to teach within inclusive classrooms as a function of the elementary education course work they complete at Iowa State University? That is, do preservice elementary students' ratings change as a function of practicum experience and completion of specific course content within their distinct preparation format?

Curricula Descriptions

Iowa State University currently offers two different preservice curricula: the traditional curriculum and the new experimental megamethods curriculum. Each curriculum is described in the following paragraphs. Differences between the curricula are identified in the discussion of the megamethods curriculum.

Traditional Curriculum

The traditional curriculum consists of a class in Social and Philosophical Foundations in Education, an exceptionalities class, a teaching strategies class, and "block" methods classes. The classes in foundations of education, exceptionalities, and teaching strategies are prerequisite courses to the block methods classes. None of these courses has a practicum attached to them. Refer to Figure 1 for the sequence of classes taken by preservice teachers enrolled in the traditional curriculum.

It is during the teaching strategies class that Iowa State University requires its preservice students to formally apply for admission to the teacher preparation program in the College of Education. Students must maintain a grade point average of 2.5 or higher to be considered eligible for acceptance into the teacher education program. Block 1 is a semester
long course exploring the process of teaching reading and language arts. Students enrolled in Block 1 simultaneously enroll in two credits of practicum experience. These two credits translate into approximately 40 - 48 clock hours of practicum experience. Block 2 focuses on methods of teaching math and science to the elementary student. Students enrolled in Block 2 enroll for one credit of practicum experience. Students enrolled in Block 2 will have completed the practicum clock hours required in Block 1 and are required to complete 20 - 24 additional practicum clock hours in Block 2. One-half of this one credit practicum hour is assigned to the math methods course and the remaining half credit corresponds to the science methods course. Finally, Block 3 deals with methods of teaching social studies in the elementary classroom. There are no required practicum hours for this Block class.

A policy of the state of Iowa requires each student, prior to student teaching, to complete a minimum of 40 clock hours of practicum experiences. Preservice students are required to
Figure 2: Cumulative Clock Hours Preservice Students Spend in Practicum Experiences

complete these 40 practicum hours after they have been admitted to the teacher education program. These hours can be accumulated through the block courses and periodic enrollment in various other preservice student teaching experiences (refer to Figure 2).

A longitudinal study to measure student growth over time was not practical at the time of the data collection. Therefore, this study took a cross-section of the current students enrolled in each course as a representative measure of any change that may occur in the preservice student's ratings to teach in inclusive general education classrooms.

Megamethods Curriculum

The megamethods curriculum at Iowa State University attempts to make a more direct alignment between university course content in the traditional curriculum and practicum experiences. Preservice students enrolled in megamethods must first complete a class in exceptionalities. This class is taken through the traditional curriculum coursework. Next, the preservice student will enroll in the Social and Philosophical Foundations in Education along with a preservice practicum class. Unlike in the traditional curriculum, students enrolled in the social foundations class observe various types of classrooms and grade levels within one district and have an opportunity to meet with individuals involved in
different disciplines. Upon completion of the foundations in education class, the preservice student will have spent approximately 20 - 24 clock hours observing in elementary, middle school, and secondary education buildings. Following this semester, the preservice student will enroll in a teaching strategies class. The teaching strategy class differs from the traditional required course in that each student is placed in one specific elementary classroom during this semester. This practicum experience is designed to provide students an opportunity to spend time in a homebase elementary education classroom observing and participating in the everyday routines of the classroom. The teaching strategies class is taken for one complete semester with preservice students placed 6 of the 18 weeks in their respective elementary classrooms. Preservice students devote one-half day each week in an elementary classroom during weeks four, five, six, seven, nine, ten, eleven, and twelve. Upon completion of the teaching strategies class, students will have acquired approximately 40 - 42 clock hours of practicum experience. An optional all day experience within the elementary classroom is available, but not required. The remaining time is spent within the college classroom. This course is completed one year before these same students enroll in the megamethods course.

A class in multicultural and nonsexist education is taken following the teaching strategies class. This class explores the issues of multicultural and nonsexist education and has an accompanying practicum experience. The practicum hours associated with this class are utilized at the discretion of the instructor. Typically, preservice teachers will spend a total of three clock hours in an elementary or secondary education classroom, with approximately 15 additional clock hours spent observing different social agencies who provide services to children in the educational system.

Students enrolled in the megamethods course are exposed to the entire content of Blocks 1, 2, and 3 during the course of one semester. During this semester each student spends 6 weeks of the 18 week semester within an elementary classroom. During weeks
three and six students are in the elementary classrooms for one-half of each academic day. During weeks seven, thirteen, fourteen, and fifteen preservice students are engaged the entire school day in an elementary classroom. The remaining weeks are spent on campus in the college classroom. This sequence of coursework outlined for the megamethods curriculum is referred to as Project Opportunity at Iowa State University. The sequence of coursework completed in the megamethods curriculum can be found below in Figure 3.

![Sequence of Coursework Completed Within The Megamethods Curriculum](image)

A second purpose of this study was to determine if the two different curricula, or the method in which the preservice student received their preparation information and experience, had similar or different effects on ratings of their ability to teach within inclusive classrooms. It would be assumed any difference in their ratings would be a consequence of the type of training, i.e., the curriculum, and the amount of contact the preservice student had with students with differing abilities.

The move to be more inclusive in services provided in the general education classroom has created a monumental shift in the roles of both special education teachers and general education teachers. Before inclusion, special education teachers held most of the
responsibility for the successful education of students with special learning needs in separate educational settings. Inclusion, as defined in this study, requires these same services be provided within the general education classroom and general education teachers assume the responsibility for successful education of students with differing abilities. If inclusion is to be successful for all students within the general education classroom it is imperative preservice teachers who elect to teach in inclusive general education classrooms feel they have been prepared to do so successfully (Larrivee, 1981). The focus of this research clearly required a measurement instrument which would address those competencies general education teachers would need in order to be successful in educating students with differing abilities within the general education classroom. As this study focused on the skills required of general education teachers to successfully teach in inclusive general education classrooms, an extensive search of the literature was completed to identify an instrument that would appropriately measure these skills. Based on this search, it was concluded such an instrument did not currently exist. Therefore, an instrument was developed for this study to address skills practicing teachers identified as essential when adapting instruction to meet the needs of students with differing abilities. In the development of the survey, Como and Snow's (1986) twelve characteristics teachers exhibited when adapting instruction to meet individual learner needs where used as the framework for the development of survey questions. A more complete description of Como and Snow's (1986) work can be found in Chapter Two.

Instrument

The Inclusive Classroom Teacher Behavior Rating Scale (ICTBRS) contained a total of nine demographic questions, 35 individual items representing specific characteristics teachers demonstrate when working with students with special learning needs, and five additional "lie" items (see Appendix A). The thirty-five individual items were based on the 12 identified characteristics teachers demonstrate
when working with students with differing abilities as reported by Corno and Snow (1986). Five additional "lie" items were constructed and included on the ICTBRS which described skills or characteristics master, or skilled teachers would exhibit within their teaching repertoire. These five items were included in order to more accurately gauge whether participating preservice teachers were truthfully answering all items on the ICTBRS as these were skills preservice teachers would not typically have within their current teaching repertoire (see Appendix B). All 40 items were listed in random order.

A sensitivity scale was embedded within the instrument to measure students' ratings of their sensitivity to teach students with special needs within the inclusive general education classroom. This sensitivity scale consisted of eight items which specifically addressed a particular student with a special learning need found in the inclusive general education classroom (see Appendix C).

Participants were asked to rate each of the 40 items on a Likert scale of 1-7. Possible responses could range from a representation that the individual did not feel prepared to demonstrate the identified characteristic to a representation that the individual felt extremely well prepared. An option was available for students to respond they did not believe the skill was important for general education teachers to demonstrate.

Field Testing

A field test was completed only on items which specifically related to the 12 categories observed by Corno and Snow (1986). Therefore, the five lie items were omitted during this phase of instrument development.

Participants throughout the field tests were teachers who were currently teaching in inclusive elementary classrooms (N = 20). This sample was considered to be representative of expert teachers due to their direct experience in the inclusive general education classroom.
The purpose of this early field test was to determine if the items on the survey did, in the participants' opinions, accurately reflect their corresponding categories. The survey form provided opportunities for feedback on additions or deletions of any of the given items (see Appendix D). Participants in this field test reported many of the items did accurately reflect the identified categories with minor changes. A summary of the feedback received can be found in Appendix E.

A second field test focusing only on the sensitivity scale employed the same format, but with different instructions. The same practicing teachers mentioned above were asked to identify which items on a new instrument specifically addressed students with special needs in the inclusive general education classroom (see Appendix F). It was evident that it was difficult to factor out this population's direct experience in inclusive general education classrooms as the large majority of teachers reported the items listed where important to any student in the general education classroom; the typical special education student no longer existed within their logical framework. Therefore, this format was revised from the original forced choice form to a cluster format. The revised format contained eight clusters with one item per cluster addressing students with special learning needs. The revised format can be found in Appendix G.

Validity

A test is valid when it, "... measures what it purports to measure" (Borg & Gall, 1989, p.249-50). Content validity was determined by correlating the 12 categories found in Corno and Snow (1986) and their corresponding items. However, many individual items on the validity survey reported a 100% agreement from participants which provided no variance. Therefore, content validity was determined by frequency of agreement or disagreement.

Two separate formats were used to test for content validity. Graduate students in the education program at Iowa State University (N = 30) were first asked to validate whether the items on the test accurately reflected the twelve categories reported in Corno and Snow
It was predetermined if less than 70% of the graduate students validated the individual item as being accurate for the given category, the item would be deleted from the survey instrument.

Using a separate format (see Appendix G), participants were also asked to select one item within eight designated clusters that addressed a student with special needs within the inclusive general education classroom. These eight items would be used as a sensitivity scale within the ICTBRS. Again, a 70% cut-off criteria was adopted before administration of this survey. All participants completed both formats. Results for both of the formats used to validate the ICTBRS are located in Tables 1 and 2.

Another form of validity examined was the truthfulness of the preservice student’s response to the items found on the ICTBRS. A one-sample t-test was performed utilizing the averages of the preservice student responses to the five lie items found on the ICTBRS and the averages of their responses to the remaining 35 items dealing with their preparation to teach students with differing abilities. The Likert scale provided on the final ICTBRS survey instrument included an option to select a response that stated the identified skill was not important (#7). In the computation of both the lie averages and the preparation averages, this item response was changed to zero in the data sheet as it did not correspond to a rating of a level of preparation. It was assumed if students were honestly responding to the survey items, the lie score would remain consistently below the score for self-rating of individual preparation. Results on all preservice student responses on both the lie items and the preparation items showed a $t$ value of 27.93 which was significant at the .05 level (see Table 3). These findings indicate a statistically significant difference did exist between the averages of the lie scores and the averages of the preparation scores for all preservice students. Using reported means for each of the lie items and preparation items for all preservice students, it is evident the lie scores were significantly lower than the preparation scores.
The Scheffe test was employed to determine where the differences might occur. Results indicated the megamethod students lie item scores were significantly different from the scores reported from the other three groups. This was another way to validate the "trueness" or honesty of responses for the preservice students involved in this study. It is interesting to note the reported means indicated the megamethods students rated themselves more competent on the lie items than the other three groups. Perhaps this finding can be attributed to the amount of exposure preservice students had with practicing teachers and elementary students.

**Reliability**

Reliability is defined as, "... the level of internal consistency or stability of the measuring device over time" (Borg & Gall, 1989, p. 257). Reliability of the ICTBRS was determined by test/retest. Once the thirty five items were determined to be valid, the final format of the ICTBRS was created (see Appendix A). This form included all 35 items and the additional five lie items. All 40 items were listed in random order. The ICTBRS was administered twice with a one week interval between each administration. Participants used in the testing of validity were also used to test for the instruments reliability. Overall test of reliability was performed using a reliability coefficient. This test indicates the consistency of responses over time. The reliability coefficient for the ICTBRS was reported as 0.91. This correlation coefficient indicated there was a high positive linear relationship between the responses of individual graduate students during each administration of the ICTBRS.

The Kuder-Richardson (K-R 20) was performed to determine the internal consistency of the ICTBRS. This test was selected due to the dichotomous items used on the survey form. K-R
Table 1: Reported Validity of Generated Survey Items to Teacher Characteristics Found in Corno & Snow (1986).

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>% of agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1: Grouping Students for Instruction</strong></td>
<td></td>
</tr>
<tr>
<td>Group students homogeneously when needed</td>
<td>86.2%</td>
</tr>
<tr>
<td>Group students heterogeneously when needed</td>
<td>86.2%</td>
</tr>
<tr>
<td>Understand the purpose of grouping students for learning</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>2: Structuring Information (explanatory presentation of organized Information)</strong></td>
<td></td>
</tr>
<tr>
<td>Organize information to be learned in a variety of different ways to accommodate students who typically perform well below average</td>
<td>96.6%</td>
</tr>
<tr>
<td>Effectively communicate curriculum content for student learning</td>
<td>86.2%</td>
</tr>
<tr>
<td>Use of a variety of different strategies in the delivery of content material</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>3: Soliciting Information (monitoring and evaluating student learning)</strong></td>
<td></td>
</tr>
<tr>
<td>Closely monitor the content learning tasks of students who fall academically behind their peers</td>
<td>93.1%</td>
</tr>
<tr>
<td>Formally evaluate student learning of content material</td>
<td>72.4%</td>
</tr>
<tr>
<td>Informally evaluate student learning of content material</td>
<td>93.1%</td>
</tr>
<tr>
<td>Plan and provide adequate academic learning time to the very slow learner in the general education classroom</td>
<td>89.7%</td>
</tr>
<tr>
<td><strong>4: Reacting to Student Responses (providing appropriate feedback)</strong></td>
<td></td>
</tr>
<tr>
<td>Provide appropriate feedback to individual students</td>
<td>100.0%</td>
</tr>
<tr>
<td>During teaching evaluate the understanding of curriculum content of students experiencing academic failure</td>
<td>75.9%</td>
</tr>
<tr>
<td>Spontaneously react to individual student learning needs while teaching</td>
<td>89.7%</td>
</tr>
</tbody>
</table>
Table 1 (continued)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>% of agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5: Teacher Expectations For Student Learning</strong></td>
<td></td>
</tr>
<tr>
<td>Establish appropriate goals to accommodate students, Especially those experiencing severe reading difficulties</td>
<td>93.1%</td>
</tr>
<tr>
<td>Challenge student learning on various cognitive levels through the delivery of course content</td>
<td>93.1%</td>
</tr>
<tr>
<td><strong>6: Manipulation of Organizational Structures of Class Groups</strong></td>
<td></td>
</tr>
<tr>
<td>Plan different group activities for student learning</td>
<td>89.7%</td>
</tr>
<tr>
<td>Facilitate differing group activities for student learning</td>
<td>96.6%</td>
</tr>
<tr>
<td><strong>7: Learning Centers</strong></td>
<td></td>
</tr>
<tr>
<td>Create curriculum based learning centers for any student within the general education classroom</td>
<td>82.8%</td>
</tr>
<tr>
<td>Utilize learning centers as a means of supplementing or supporting curriculum content</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>8: Reward Structures</strong></td>
<td></td>
</tr>
<tr>
<td>Utilize a wide variety of reward systems to accommodate learner needs in the general education classroom</td>
<td>86.2%</td>
</tr>
<tr>
<td>Establish an effective reward system for students who exhibit attending problems and poor academic achievement</td>
<td>96.6%</td>
</tr>
<tr>
<td>Implement an effective reward system</td>
<td>89.7%</td>
</tr>
<tr>
<td>Provide immediate feedback to students identified as having behavioral problems due to disruptive or aggressive behaviors</td>
<td>96.6%</td>
</tr>
<tr>
<td><strong>9: Vary Support Materials</strong></td>
<td></td>
</tr>
<tr>
<td>Utilize a variety of supplemental materials in the inclusive classroom</td>
<td>96.6%</td>
</tr>
<tr>
<td>Utilize technology to support or supplement instruction in the general education classroom</td>
<td>100.0%</td>
</tr>
<tr>
<td>Characteristic</td>
<td>% of agreement</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>10: Vary Level and Form of Questions Asked</td>
<td></td>
</tr>
<tr>
<td>Appropriately form questions during instruction</td>
<td>86.2%</td>
</tr>
<tr>
<td>Create a variety of different question types, i.e. open-ended questions, factual questions, etc.</td>
<td>100.0%</td>
</tr>
<tr>
<td>Create different questions on variety of cognitive levels, e.g. on all 6 levels of Bloom's taxonomy</td>
<td>86.2%</td>
</tr>
<tr>
<td>Demonstrate appropriate questioning behaviors while teaching, i.e. wait-time, redirecting, clarification, sequencing, etc.</td>
<td>96.6%</td>
</tr>
<tr>
<td>11: Vary Reinforcement Given for Correct/Incorrect Responses</td>
<td></td>
</tr>
<tr>
<td>Vary reinforcement given for correct/incorrect responses</td>
<td>96.6%</td>
</tr>
<tr>
<td>Respond appropriately to students' partially correct, silly, guess, or no response answers</td>
<td>93.1%</td>
</tr>
<tr>
<td>12: Awareness of Student Cognition and Motivation with Respect to Learning</td>
<td></td>
</tr>
<tr>
<td>Motivate students with low abilities to learn within the inclusive classroom</td>
<td>100.0%</td>
</tr>
<tr>
<td>Maintain student interest during the learning activity</td>
<td>96.6%</td>
</tr>
<tr>
<td>Assess student prior knowledge in all academic areas</td>
<td>93.1%</td>
</tr>
<tr>
<td>Evaluate student learning during instruction</td>
<td>86.2%</td>
</tr>
</tbody>
</table>

20 is a special case of coefficient alpha and indicates the consistency of responses found within the ICTBRS. A higher alpha level indicates a greater level of internal consistency. KR-20 reported an alpha of 0.83 which is interpreted as 83% of the variance in the items may be explained by reliable or repeatable factors.
Table 2: Reported Validity of the Eight Sensitivity Items Found on The Inclusive Classroom Teacher Behavior Rating Scale

<table>
<thead>
<tr>
<th>Item</th>
<th>% of agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>During teaching evaluate the understanding of curriculum content of</td>
<td>73.7%</td>
</tr>
<tr>
<td>students with a history of academic difficulties</td>
<td></td>
</tr>
<tr>
<td>Establish appropriate goals to accommodate students, especially</td>
<td>92.1%</td>
</tr>
<tr>
<td>those experiencing severe reading difficulties</td>
<td></td>
</tr>
<tr>
<td>Provide immediate feedback to students identified as having</td>
<td>76.3%</td>
</tr>
<tr>
<td>behavioral problems</td>
<td></td>
</tr>
<tr>
<td>Motivate low functioning students within the inclusive classroom</td>
<td>76.3%</td>
</tr>
<tr>
<td>to promote learning</td>
<td></td>
</tr>
<tr>
<td>Organize information to be learned in a variety of different</td>
<td>92.1%</td>
</tr>
<tr>
<td>ways to accommodate students who typically perform well below the</td>
<td></td>
</tr>
<tr>
<td>average learner</td>
<td></td>
</tr>
<tr>
<td>Plan and provide adequate academic learning time to accommodate the</td>
<td>71.1%</td>
</tr>
<tr>
<td>slower learner needs in the general education classroom</td>
<td></td>
</tr>
<tr>
<td>Establish an effective reward system for students who require</td>
<td>71.1%</td>
</tr>
<tr>
<td>more help with attending to task and academic achievement</td>
<td></td>
</tr>
<tr>
<td>Closely monitor the content learning of students who struggle</td>
<td>73.7%</td>
</tr>
<tr>
<td>academically with many learning tasks</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: t-test results of the Five Lie Items and the 35 Preparation Items on The ICTBRS

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1</td>
<td>43</td>
<td>1.7176</td>
<td>.4950</td>
<td>22.75**</td>
</tr>
<tr>
<td>Block 2</td>
<td>50</td>
<td>1.5531</td>
<td>.8508</td>
<td>12.91**</td>
</tr>
<tr>
<td>Block 3</td>
<td>52</td>
<td>1.5846</td>
<td>.7914</td>
<td>14.43**</td>
</tr>
<tr>
<td>Megamethods</td>
<td>19</td>
<td>2.1414</td>
<td>.8488</td>
<td>10.10**</td>
</tr>
<tr>
<td>All Students</td>
<td>164</td>
<td>1.6744</td>
<td>.768</td>
<td>27.93**</td>
</tr>
</tbody>
</table>

|                  |      |       |                   |      |
| Lie items        | 2.6402| .949  |                   |      |
| Preparation Items| 4.3146| .688  |                   |      |

$ t $ critical with 163 df = 1.96

** significant at the $ p < .001 $
Procedures

The requisite permission needed to pursue the research was obtained. The proposal for this research study was reviewed and approved by the Iowa State University Human Subjects Committee (see Appendix I). Each survey was identified by the preservice student's last four digits of his/her social security number for purposes of follow-up studies.

The ICTBRS was administered to students enrolled in the four methods classes; Block 1, Block 2, Block 3, and megamethods, during the last two weeks of the spring 1996, academic semester. The investigator of this study administered the ICTBRS during the beginning of class time for each section of the identified classes. A brief introduction by the investigator was given and each student was provided a letter with their survey explaining the purpose of the study and potential future plans for continuing the study (see Appendix J). The intent of the letter was also verbally summarized by the investigator before students began the ICTBRS. All participants were encouraged to participate, yet the investigator was forthright with their option to not volunteer information. Students choosing not to participate were instructed to turn their survey in blank. All participants elected to be involved in this study.

Hypotheses

Research questions presented in Chapter One are restated below in the interest of clarity. Each question is followed by its corresponding statistical hypothesis.

**Question 1:** How do students who complete the traditional curriculum sequentially, that is Block 1, Block 2, and Block 3, rate their competencies to teach students with different abilities following each successive course requirement?
Statistical hypothesis to address this question is:

**Ho 1:** There are no significant differences between preservice students' ratings of their competencies to teach students with different abilities upon completion of each block experience.

**Question 2:** Is there a linear trend in preservice students' ratings of their competencies to teach students with different abilities as ratings were completed at the end of each curricular format?

Statistical hypothesis to address this question is:

**Ha 2:** Preservice students who are enrolled in the different curricular formats rate their competence to teach students with different abilities increasingly higher upon completion of each methods class dictated in the two different curricula.

**Question 3:** Do preservice students who have been prepared via a megamethods curriculum sequence rate their competencies to teach children with special needs who are included in the general education classroom differently from preservice students who have been prepared under the traditional curriculum sequence.

The statistical hypothesis to address this question is:

**Ho 3:** No significant differences exist in preservice students who have completed the megamethods curriculum sequence or the traditional curriculum sequence in regard to ratings of their competencies to teach students of different abilities.

**Question 4:** Does the traditional curriculum sequence or the megamethods curriculum sequence cultivate more sensitivity in preservice students' ratings to teach students of different abilities?
The statistical hypothesis to address this question is:

**Ho 4:** No significant differences exist in preservice students who have completed the megamethods curriculum sequence or the traditional curriculum sequence in regard to their sensitivity to teach students of different abilities.

**Research and Statistical Design**

The research design employed in this study was a static-group comparison design. Research question one was to determine if an effect occurred between the specific course the preservice student was completing at Iowa State University (independent variable) and the students' rating of their abilities to teach students with differing abilities (dependent variable). A one-way analysis of variance (ANOVA) was employed to answer this research question as there was only one independent variable involved. In ANOVA, changes in the dependent variable are presumed to be the result of changes in the independent variable. As identified in the research hypotheses, it is assumed the population means for each of the four curriculum courses are equal. Therefore, ANOVA attempts to look at the variance of the scores on both the independent and dependent measures. Using the test of ANOVA, variance is described as: 1.) the variance within the four groups; and 2.) the variation among the group means and the grand mean or between groups mean. The null hypothesis, then, is tested using the ratio of the two variances, i.e. within variance and between variance. The test of ANOVA produces an $F$ ratio. ANOVA does not test the difference between the variances, but the ratio of the two sample variances. The $F$ distribution is determined by two degrees of freedom values, one associated with each of the two estimates of variance (Borg & Gall, 1989; Hinkle, Wiersma, & Jurs, 1988). For each ANOVA employed in this study, a post-hoc Scheffe test was used to determine where, if any, differences occurred. This test was selected due to its versatility and conservative nature.
Hypothesis two looked at the means of each group of preservice students enrolled in Blocks 1, Block 2, Block 3, and megamethods. The means were used in order to determine if a trend existed in the preservice student's ratings of their abilities to teach students with differing learning needs. Since this study was new to Iowa State University, individual students' ratings over time were unavailable.

An independent t-test was employed to answer research question three. Since the megamethods curriculum was new to Iowa State University and no other research had been done in this area with preservice students enrolled in the traditional curriculum, it was determined one directional hypotheses could produce erroneous conclusions. Since \( t \) distributions are symmetrical, bell-shaped, and center on the mean, an independent t-test was utilized to determine if any difference existed between the two different curricula offered at Iowa State University in regard to preservice students' ratings of their abilities to teach students with differing abilities.

Research question four also employed an independent t-test to determine if differences did exist between the two different curriculum in regard to sensitivity toward children with special learning needs. In addition, an ANOVA was performed to determine where the differences did occur in regard to this question.

Population

The population for this study was Iowa State University preservice teacher education students enrolled in both the traditional education curriculum and the new experimental megamethods curriculum. Students enrolled specifically in Early Childhood Education programs who participated in teacher education classes were also included in the study.
Sample

During the 1996 spring semester, the traditional curriculum offered at Iowa State University was comprised of 43 students enrolled in Block 1 classes; 50 students enrolled in Block 2 classes, and; 52 students enrolled in Block 3 classes. The megamethods curriculum had a total of 19 students enrolled.

Subject Demographic Information

Of all students enrolled in Iowa State University's teacher education program, 86% were between the ages of 18-25, 35% reported having had 122 or more clock hours of practicum experience, 87% were female, 44% reported a grade point average (GPA) between 3.00 and 3.49, 64% were majoring in elementary education, and 76% did not intend to complete a special education endorsement. More specific demographic information is located in Table 4.

Of the 43 students enrolled in Block 1, 88% were between the ages of 18-25, 63% reported having had between 55 and 100 clock hours of practicum experience, 91% were female, 45% reported a grade point average (GPA) between 3.00 and 3.49, 79% were majoring in elementary education, and 79% did not intend to complete a special education endorsement.

Block 2 students (N=50) 88% were between the ages of 18-25, 38% reported having had 122 or more clock hours of practicum experience, 86% were female, 44% reported a grade point average (GPA) between 3.00 and 3.49, 74% were majoring in elementary education, and 80% did not intend to complete a special education endorsement.

Block 3 students (N=52) 81% were between the ages of 18-25, 50% reported having had 122 or more clock hours of practicum experience, 74% were female, 44% reported a grade point average (GPA) between 3.00 and 3.49, 67% were majoring in elementary education, and 68% did not intend to complete a special education endorsement.
<table>
<thead>
<tr>
<th>Class</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
<th>Megamethods</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>88.10%</td>
<td>88.00%</td>
<td>80.77%</td>
<td>97.74%</td>
<td>86.00%</td>
</tr>
<tr>
<td>26-30</td>
<td>4.76%</td>
<td>4.00%</td>
<td>11.54%</td>
<td>5.26%</td>
<td>6.70%</td>
</tr>
<tr>
<td>31-35</td>
<td>7.14%</td>
<td>2.00%</td>
<td>1.92%</td>
<td></td>
<td>3.00%</td>
</tr>
<tr>
<td>36-40</td>
<td>4.00%</td>
<td>3.85%</td>
<td></td>
<td></td>
<td>2.40%</td>
</tr>
<tr>
<td>40+</td>
<td>2.00%</td>
<td>1.92%</td>
<td></td>
<td></td>
<td>1.20%</td>
</tr>
<tr>
<td>Total of</td>
<td>25.80%</td>
<td>30.70%</td>
<td>31.90%</td>
<td>11.7%</td>
<td></td>
</tr>
<tr>
<td>N=163</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practica Hrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 55 hrs.</td>
<td>4.65%</td>
<td></td>
<td></td>
<td></td>
<td>1.20%</td>
</tr>
<tr>
<td>55-100 hrs.</td>
<td>62.79%</td>
<td>12.00%</td>
<td>13.46%</td>
<td>10.53%</td>
<td>25.60%</td>
</tr>
<tr>
<td>101-110 hrs.</td>
<td>11.63%</td>
<td>16.00%</td>
<td>15.38%</td>
<td>31.58%</td>
<td>16.50%</td>
</tr>
<tr>
<td>111-121 hrs.</td>
<td>9.30%</td>
<td>34.00%</td>
<td>21.15%</td>
<td>21.05%</td>
<td>22.00%</td>
</tr>
<tr>
<td>122 or &gt;</td>
<td>11.63%</td>
<td>38.00%</td>
<td>50.00%</td>
<td>36.84%</td>
<td>34.70%</td>
</tr>
<tr>
<td>Total of</td>
<td>26.20%</td>
<td>30.50%</td>
<td>31.70%</td>
<td>11.60%</td>
<td></td>
</tr>
<tr>
<td>N=164</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9.30%</td>
<td>14.00%</td>
<td>11.54%</td>
<td>26.32%</td>
<td>13.40%</td>
</tr>
<tr>
<td>Female</td>
<td>90.70%</td>
<td>86.00%</td>
<td>88.46%</td>
<td>73.68%</td>
<td>86.60%</td>
</tr>
<tr>
<td>Total of</td>
<td>26.20%</td>
<td>30.50%</td>
<td>31.70%</td>
<td>11.60%</td>
<td></td>
</tr>
<tr>
<td>N=164</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 2.49</td>
<td>7.14%</td>
<td>2.00%</td>
<td>2.08%</td>
<td></td>
<td>3.00%</td>
</tr>
<tr>
<td>2.50-2.99</td>
<td>30.95%</td>
<td>40.00%</td>
<td>39.58%</td>
<td>36.84%</td>
<td>36.90%</td>
</tr>
<tr>
<td>3.00-3.49</td>
<td>45.24%</td>
<td>44.00%</td>
<td>43.75%</td>
<td>42.11%</td>
<td>43.80%</td>
</tr>
<tr>
<td>3.50-4.00</td>
<td>16.67%</td>
<td>14.00%</td>
<td>14.58%</td>
<td>21.05%</td>
<td>18.40%</td>
</tr>
<tr>
<td>Total of</td>
<td>26.40%</td>
<td>31.40%</td>
<td>30.20%</td>
<td>11.90%</td>
<td></td>
</tr>
<tr>
<td>N=159</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4 (continued)

<table>
<thead>
<tr>
<th>Class</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
<th>Megamethods</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE</td>
<td>21.43%</td>
<td>20.00%</td>
<td>26.92%</td>
<td>20.20%</td>
<td>N=163</td>
</tr>
<tr>
<td>ElEd</td>
<td>78.57%</td>
<td>74.00%</td>
<td>67.31%</td>
<td>64.40%</td>
<td></td>
</tr>
<tr>
<td>ECEE</td>
<td>6.00%</td>
<td>5.77%</td>
<td></td>
<td>3.70%</td>
<td></td>
</tr>
<tr>
<td>PO</td>
<td></td>
<td></td>
<td>100.00%</td>
<td>11.70%</td>
<td></td>
</tr>
<tr>
<td>Total of</td>
<td>25.80%</td>
<td>30.70%</td>
<td>31.90%</td>
<td>11.70%</td>
<td></td>
</tr>
<tr>
<td>ECE: Early Childhood Education Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ElEd: Elementary Education Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECEE: Early Childhood Education Program/Elementary Education Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PO: Project Opportunity or Megamethods Curriculum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SpEd</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>20.93%</td>
<td>20.00%</td>
<td>31.37%</td>
<td>26.32%</td>
<td>24.50%</td>
</tr>
<tr>
<td>No</td>
<td>79.07%</td>
<td>80.00%</td>
<td>68.63%</td>
<td>73.68%</td>
<td>75.50%</td>
</tr>
</tbody>
</table>

The megamethods curriculum reported 98% were between the ages of 18-25, 37% reported having had 122 or more clock hours of practicum experience, 74% were female, 42% reported a grade point average (GPA) between 3.00 and 3.49, 100% were Project Opportunity students majoring in elementary education, and 74% did not intend to complete a special education endorsement.

Differences between the groups of students enrolled in either curricula were found in reported age and GPA. Differences in age may be due to the time constraints placed on nontraditional students which would not allow them to become full participants in the megamethods curriculum. In addition, the megamethods group is self-selected, which may account for the differences in GPA.
CHAPTER IV
RESULTS

This chapter presents the results of the data analyses conducted to reject or accept the four null hypotheses that framed this study. For the first null hypothesis, data were analyzed to determine if students enrolled in the traditional education curriculum rated their competencies to teach students with different abilities differently as a result of their coursework experience. The second null hypothesis was used to examine whether a linear trend existed in students' ratings of their competencies to teach children with differing abilities as they progressed through the different curricula offered at Iowa State University. Third, data were analyzed to determine if students' ratings differed between the traditional teacher education curriculum and the new experimental curriculum offered at Iowa State University. Finally, the sensitivity scale was used to determine which curriculum influenced students to rate themselves as being more sensitive to the needs of students with different abilities within the inclusive general education classroom.

Research Question One

Research question one was stated as follows:

How do students who complete the traditional curriculum sequentially, that is Block 1, Block 2, and Block 3, rate their competencies to teach students with different abilities following each successive course requirement?

Hypothesis tested for research question one:

Ho 1: There are no significant differences between preservice students' ratings of their competencies to teach students with different abilities upon completion of each block experience.
An analysis of variance (ANOVA) was utilized to determine if a statistically significant difference existed. The data showed a statistically significant difference did exist, therefore, Ho 1 was rejected and it was concluded there was a difference in student self-ratings of their abilities to teach in inclusive classrooms between Block 1, Block 2, and Block 3, \([F (2, 142) = 3.67, p < .05]\) (see Table 5).

Table 5: Mean scores and their standard deviations that are associated with each dependent measure for the Block class preservice students are currently enrolled \((N=145)\). ANOVA test with self-ratings of preparation to teach students with different abilities in the general education classroom as a within-subject factor.

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Within-subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1</td>
<td>146.00</td>
<td>26.00</td>
<td></td>
</tr>
<tr>
<td>Block 2</td>
<td>151.20</td>
<td>22.62</td>
<td></td>
</tr>
<tr>
<td>Block 3</td>
<td>159.00</td>
<td>23.00</td>
<td>3.67 .03*</td>
</tr>
</tbody>
</table>

* significant at the \(p < .05\)

The Scheffe test was employed to determine where differences occurred. This test reported students completing Block 3 rated themselves statistically higher than students who had completed Blocks 1 and 2.

Research Question Two

Research question two was stated as follows:

Is there a linear trend in preservice students' ratings of their competencies to teach students with different abilities as ratings were completed at the end of each curricular format?
Hypothesis tested for research question two:

Ha 2: Preservice students who are enrolled in the different curricular formats rate their competence to teach students with different abilities increasingly higher upon completion of each methods class dictated in the two different curricula.

Due to the nature of this study, which can not supply longitudinal data, a statistical test of linear trend could not be conducted. Therefore Ha 2 could not be tested. However, the means do indicate a slight linear trend as students sequentially completed each Block course offered at Iowa State University. Students enrolled in the megamethods curriculum reported a mean that was slightly higher than the means reported from students enrolled in the traditional curriculum (refer to Figure 4).

![Graph showing means for each preparation format]

**Reported means for each preparation format:**

- Block 1: 145.9070
- Block 2: 151.2000
- Block 3: 158.9808
- Megamethods: 163.3684

**Figure 4:** Means Reported for Each Block 1, Block 2, Block 3, and Megamethods Classes.
Since the reported means indicated a slight linear trend, a test of correlation was conducted to determine if there was a relationship between the preservice teachers' reported preparation scores and their membership in one of the four methods courses. Data for this study were collected in rank order, therefore, Spearman correlation was executed. This test reported a correlation coefficient as .2809** [significant at $p < .001$]. Therefore, 8% of the variation in preservice teachers' preparation scores can be explained by their membership in a respective methods course. In addition, an ANOVA using orthogonal polynomial contrasts was conducted. The coefficients used for orthogonal polynomials can be found in Table 6.

Results of the ANOVA using orthogonal polynomial contrasts indicated a positive linear relationship did exist (refer to Table 7).

### Table 6: Orthogonal Polynomial Coefficients

<table>
<thead>
<tr>
<th></th>
<th>K = 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear</td>
<td>-3</td>
</tr>
<tr>
<td>Quadratic</td>
<td>1</td>
</tr>
<tr>
<td>Cubic</td>
<td>-1</td>
</tr>
</tbody>
</table>


### Table 7: Results of the ANOVA Using Orthogonal Polynomial Contrasts

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3</td>
<td>3.6378</td>
<td>.0142*</td>
</tr>
<tr>
<td>Unweighted Linear Term</td>
<td>1</td>
<td>8.8939</td>
<td>.0033*</td>
</tr>
<tr>
<td>Unweighted Quadratic Term</td>
<td>1</td>
<td>.0126</td>
<td>.9106</td>
</tr>
<tr>
<td>Unweighted Cubic Term</td>
<td>1</td>
<td>.1431</td>
<td>.7058</td>
</tr>
</tbody>
</table>

* significant at the $p < .05$
Research Question Three

Research question three was stated as follows:

Do preservice students who have been prepared via a megamethods curriculum sequence rate their competencies to teach children with special needs who are included in the general education classroom differently from preservice students who have been prepared under the traditional curriculum sequence.

Hypothesis tested for research question three:

Ho 3: No significant differences exist in preservice students who have completed the megamethods curriculum sequence or the traditional curriculum sequence in regard to ratings of their competencies to teach students of different abilities.

An independent t-test was used to determine if differences existed between students enrolled in the Block methods courses at Iowa State University and those students enrolled in megamethods. Results showed an F statistic of .380 indicating there was no significant difference in the variances between both groups. Therefore, a t-test of equal means reported a t-value of 1.86 [t critical = 1.96, 162 df, p < .05]. Results indicated there was not a statistically significant difference between the two groups, therefore the data failed to reject Ho 3 (refer to Table 8).

Table 8: Results of the Independent t-test of Students' Self-Ratings of Their Competencies to Teach Students of Differing Abilities for the Traditional Curriculum and the Megamethods Curriculum.

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>df</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances</td>
<td>162</td>
<td>5.887</td>
<td>1.86</td>
<td>.065</td>
</tr>
</tbody>
</table>

\( t \) critical with 162 df = 1.96

\( p < .05 \)
Research Question Four

Research question four was stated as follows:

Does the traditional curriculum or the megamethods curriculum cultivate more sensitivity in preservice students' ratings to teach students of different abilities?

Hypothesis tested for research question four:

No significant differences exist in preservice students who have completed the megamethods curriculum sequence or the traditional curriculum sequence in regard to their sensitivity to teach students of different abilities.

An independent t-test was used to determine if differences did exist between the traditional curriculum and the megamethods curriculum in regard to cultivating a more sensitive preservice student toward students of different abilities. This test reported an $F = .267$ which indicated there were no significant difference in the variances between the two groups. Therefore, a t-test of equal means reported a t-value of .98 [ $t$ critical = 1.96, 162 df, $p < .05$]. This result indicates a statistically significant difference does not exist at the .05 level. Therefore, the data failed to reject Ho 4 (see Table 9).

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>df</th>
<th>SE</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances</td>
<td>162</td>
<td>1.707</td>
<td>.98</td>
<td>.330</td>
</tr>
</tbody>
</table>

$t$ critical with 162 df = 1.96

$p < .05$
An F statistic from the analysis of variance (ANOVA) was utilized to determine if a statistically significant difference existed between any of the Block 1, Block 2, and Block 3 students and the megamethod students in regard to sensitivity to children with differing abilities (refer to Table 10).

The data showed a statistically significant difference did not exist between the students enrolled in the traditional curriculum and the megamethods curriculum at Iowa State University, \( F (3,160) = 2.60, p > .05 \). Again, results did not statistically report enough difference in order to reject the null hypothesis associated with this research question.

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>With-in Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1</td>
<td>29.9767</td>
<td>7.3662</td>
<td></td>
</tr>
<tr>
<td>Block 2</td>
<td>29.6800</td>
<td>6.5167</td>
<td></td>
</tr>
<tr>
<td>Block 3</td>
<td>32.9615</td>
<td>7.0181</td>
<td></td>
</tr>
<tr>
<td>Megamethods</td>
<td>32.4737</td>
<td>6.3541</td>
<td>2.6043 .0538</td>
</tr>
</tbody>
</table>

\( p < .05 \)
CHAPTER V
DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

The purpose of this chapter is to discuss the research, its findings and limitations, implications for further research, and finally, conclusions about the study. Chapter Five contains a brief summary of the research study and discussion of the findings, limitations, implications, and conclusions.

Summary of the Research Study

The primary purpose of this study was to determine how preservice students at Iowa State University rated their competency to teach in inclusive settings as a function of the type of training they completed. This investigation was designed to examine differences between the traditional curriculum and the megamethods curriculum in regard to preservice teachers' ratings of their competence to teach in inclusive environments. In addition, this study examined preservice students' ratings of their sensitivity toward children with special learning needs upon completion of their curricular coursework.

The study used a static-group comparison design with the two groups self-selected by preservice education students. One group included individuals who were enrolled in the traditional curriculum sequence (N=145) at Iowa State University; the other group was comprised of those students enrolled in the new megamethods curriculum sequence (N=19) at Iowa State University.

Data were collected from preservice students at the end of each of the methods courses during the Spring, 1996, semester. The instrument used to measure preservice students' ratings of their competencies to teach children with diverse abilities was the Inclusive Classroom Teacher Behavior Rating Scale designed and field tested by the researcher. This instrument consisted of 35 items that addressed skills teachers must possess to be successful in inclusive classrooms, five items addressed skills only master teachers would be competent in executing, and an eight item sensitivity scale which addressed
Research Question 1

Research question one addressed the differences that may occur in preservice students' rating of their abilities to teach children with different learning needs in the inclusive classroom as they sequentially completed the traditional curriculum. Results from the analysis of variance (ANOVA) test determined a statistically significant difference did exist in student ratings of their abilities to teach in inclusive classrooms between Block 1, Block 2, and Block 3 methods classes. The post hoc Scheffe test indicated preservice students completing Block 3 rated themselves statistically higher than students completing Block 1 and Block 2.

The literature states as students and teachers are exposed to inclusive practices and teaching methods, their attitudes toward the success of these practices improves and their knowledge level increases (Larivee, 1981; Leyser & Abrams, 1984; Minke, Bear, Deemer, & Griffin, 1996; Reed & Monda-Amaya, 1995). Preservice students completing Block 3 at Iowa State University have had all the prerequisite methods courses and an accumulation of 60 - 72 practicum clock hours within an elementary classroom. Although these practicum experiences are not used to expose students specifically to children with special learning needs, literature confirms the general education classroom today includes more individuals with a wider spectrum of learning needs (Hodgkinson, 1993; Larivee, 1986; Reynolds, Wang, & Walberg, 1987; Stevens & Price, 1992). Empirical data analyzed for this study supports the literature findings regarding individuals who have had more exposure to children with diverse learning needs and a greater amount of content knowledge would feel more competent about teaching in inclusive classrooms.
Research Question 2

Research question two explored the possibility of a linear trend in preservice students' ratings of their abilities to teach in inclusive environments as they sequentially complete their respective methods course requirements. Results from this study found a linear trend did exist between students enrolled in each of the block methods courses, with students enrolled in the megamethods courses reporting a higher mean overall. Preservice students who have completed the Block 3 methods class will have had the greatest amount of content knowledge and practicum experience as compared to students enrolled in Blocks 1 and 2; with the megamethods students having accumulated the most practicum hours. Data collected for research question two appear to represent the literature reports of experience and knowledge eliciting more competence in practicing teachers' attitudes toward teaching students with diverse abilities within the general education classroom (Larivee, 1981; Leyser & Abrams, 1984; Minke, Bear, Deemer, & Griffin, 1996; Reed & Monda-Amaya, 1995; Villa, Thousand, Meyers, & Nevin, 1996). However, longitudinal data is required to substantiate this viewpoint.

Research Question 3

Research question three examined the differences that may occur in preservice students' ratings of their abilities to teach in inclusive environments between the two different curricula offered at Iowa State University, i.e. the traditional curriculum and the megamethods curriculum. An independent t-test indicated a statistically significant difference did not occur in student ratings between these two groups. Because of the large difference in sample size, the researcher questioned the representativeness of this finding. Statistically when sample sizes are small, the chance for error increases and when the standard error (SE) increases, the reported t value is decreased. This fact was evident in the standard error reported from the independent t-test in Chapter Four. Therefore, the means reported for each group would need to be different in magnitude from each other in order for
any difference to be evident statistically. Based on these findings, a one sample t-test was utilized with the megamethods reported mean and the block methods reported mean. For each one-sample t-test, the mean was held constant for each group, with the sample size manipulated; this was done to determine if sample size may have had an impact on the results of the independent t-test reported in Chapter Four. When the sample size was held constant at 19, it was not large enough to show evidence of a statistically significant difference. However, when the sample size was changed to 145, results indicated enough information was available to report a statistical difference (See Tables 11 and 12). Results of these t-tests indicated the small sample size may have been a factor in the results discussed in Chapter Four. Results from this study reported in Chapter Four did not support conclusions set forth in the literature regarding improvement of teacher attitudes and teacher competency issues when experiences with diverse classrooms and teaching practices were encountered (Blanton, Blanton, & Cross, 1994; King-Sears & Cummings, 1996; Reed & Monda-Amaya, 1995; Schumm & Vaughn, 1992, 1995).

Table 11: Results of a One-Sample t-test Using Traditional Curriculum Mean as a Comparison

<table>
<thead>
<tr>
<th></th>
<th>SE</th>
<th>Mean</th>
<th>df</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Curriculum</td>
<td>2.008</td>
<td>152.4207</td>
<td>18</td>
<td>2.01</td>
</tr>
<tr>
<td>Megamethod Curriculum</td>
<td>5.440</td>
<td>163.3684</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Due to the large difference in sample size between the two curricula, the researcher questioned if a difference would exist between students who had completed Block 3 (N = 52) and students who had completed megamethods (N = 19). Since preservice teachers who had completed Block 3 would have had an equivalent amount of course content as preservice
Table 12: Results of a One-Sample t-test Using Megamethods Mean as a Comparison

<table>
<thead>
<tr>
<th></th>
<th>SE</th>
<th>Mean</th>
<th>df</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Curriculum</td>
<td>2.008</td>
<td>152.4207</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Megamethod Curriculum</td>
<td>5.440</td>
<td>163.3684</td>
<td></td>
<td>-5.45**</td>
</tr>
</tbody>
</table>

** significant at the $p < .01$

t critical 1.96

teachers who had completed the megamethods curriculum, it appeared logical these two groups could be compared. The only difference between the two groups was the amount of practica experience; Block 3 students would have completed 60 - 72 clock hours of practica experience; megamethods students would have completed 170 - 180 clock hours of practica experience.

An independent t-test was executed using the reported preparation scores from both the Block 3 students and megamethods students. Results reported there were no significant differences between the two groups [t critical = 1.671, 69 df, $p < .05$]. (refer to Table 13).

Table 13: Results of the Independent t-test of Students' Self-Ratings of Their Competencies to Teach Students of Differing Abilities for the Block 3 and Megamethods Students.

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>df</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances</td>
<td>69</td>
<td>6.190</td>
<td>-.71</td>
<td>.481</td>
</tr>
</tbody>
</table>

$t$ critical with 69 df = 1.671

$p < .05$

Explanations for this finding may be that students enrolled in the traditional curriculum have had an opportunity to visit and participate within a wider variety of school districts and elementary classrooms, thereby experiencing a larger variety of educational philosophies and teaching techniques. These differences could create a preservice student
who felt just as prepared to teach within inclusive classrooms as the megamethods students who had completed more practica hours. In addition, since the traditional program typically is completed throughout the course of two to three years (refer to Figure 1, page 31) students' maturation may explain an improved confidence in their own abilities. This confidence may be further compounded by the fact these same students take additional university courses throughout these same two to three years which in turn may add to their knowledge and perspective of the educational system and the students found in today's general education classroom.

Research Question 4

Research question four explored the potential differences between each curricula offered at Iowa State University in regard to preservice teachers' sensitivity toward students with special learning needs. Results from the independent t-test indicated a statistically significant difference did not exist. Again, the researcher questioned the impact of the small megamethods sample size on the reported t value in Chapter Four. The standard errors (SE) reported for the megamethods curriculum and block methods curriculum were 1.458 and .587 respectively. A one-sample t-test was again executed with the megamethods reported mean and the block methods reported mean (See Tables 14 and 15). Results indicated if the samples had been closer together in size, the differences may have been found to be significant. This test again supports the assumption sample size may be an issue in this study. This finding may help explain why results reported in Chapter Four did not substantiate the literature on the development of teacher's perceived attitudes toward their own ability to successfully determine the instructional needs of students who exhibit varying learning abilities in the general education classroom (Blanton, Blanton, & Cross, 1994; King-Sears & Cummings, 1996; Reed & Monda-Amaya, 1995; Schumm & Vaughn, 1992, 1995).
Table 14: Results of a One-Sample t-test Using Traditional Curriculum Mean as a Comparison

<table>
<thead>
<tr>
<th></th>
<th>SE</th>
<th>Mean</th>
<th>df</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Curriculum</td>
<td>.587</td>
<td>30.8069</td>
<td>18</td>
<td>1.14</td>
</tr>
<tr>
<td>Megamethod Curriculum</td>
<td>1.458</td>
<td>32.4737</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

t critical 2.10

\[ p < .05 \]

Table 15: Results of a One-Sample t-test Using Megamethods Mean as a Comparison

<table>
<thead>
<tr>
<th></th>
<th>SE</th>
<th>Mean</th>
<th>df</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Curriculum</td>
<td>.587</td>
<td>30.8069</td>
<td>144</td>
<td>-2.60**</td>
</tr>
<tr>
<td>Megamethod Curriculum</td>
<td>1.458</td>
<td>32.4737</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

t critical 1.96

** significant at the \( p < .01 \)

Again, the researcher questioned what differences might occur between Block 3 students and students enrolled in the megamethods curriculum. An independent t-test was executed using the reported sensitivity scores from students enrolled in the Block 3 and megamethods curricula. Results reported there were no statistical differences between the two groups \([t \text{ critical } = 1.671, 69 \text{ df}, p < .05]\). (refer to Table 16). Explanations could again be due to the variety of practica placements and maturation.

Limitations

In interpreting the results of this study, four limitations must be kept in mind. First, this study was done at the completion of one semester. Second, the megamethods curriculum is a new program at Iowa State University. Third, the number of students involved in the megamethods curriculum was small. Fourth, since this study was completed in one semester
Table 16: Results of the Independent t-test of Students' Self-Ratings of Their Sensitivity Toward Students of Differing Abilities for the Block 3 and Megamethods Students.

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>df</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances</td>
<td>69</td>
<td>1.837</td>
<td>.27</td>
<td>.791</td>
</tr>
</tbody>
</table>

$t$ critical with 69 df = 1.671

$p < .05$

and the number enrolled in megamethods was small, questions need to be raised concerning true representation of the typical student found in this program.

The first limitation in this study was that it was completed at the end of one semester, spring, 1996. This type of study lends itself well to being longitudinal in nature. However, a longitudinal study was not possible due to time constraints. Therefore, it was decided students enrolled in each methods class would be used as a representation of the typical student enrolled in the same class in the future. It would be more beneficial to study individual growth over time in order to determine if a true linear trend existed in preservice students' ratings of their abilities to teach in inclusive classrooms.

Since the megamethods curriculum is new at Iowa State University, faculty members continuously update the curriculum at the end of each semester. This update focuses on the content and the delivery of the content in order to more appropriately match preservice student's needs and cooperating teacher's needs. Presently, the megamethods curriculum has completed its second year. Preparation has been made to change some outcomes for preservice students currently enrolled in the third year. This continual change could impact the results if the study were to become longitudinal.

The third limitation was the small enrollment in the new megamethods curriculum at Iowa State University. The large differences in sample size appear to have impacted the power and sensitivity of the independent t-tests employed in this study. Additionally, this
sample was drawn from one preservice preparation program. Any generalizations made would need to be confined only to this preservice preparation program.

Finally, the fourth limitation was with limited sample size in megamethods coupled with this study implemented in one semester. This procedure questions the representativeness of the megamethods sample to previous students enrolled in megamethods and students who will enroll in this curriculum in the future. Again, it would be advantageous to conduct this study in a longitudinal manner.

Implications for Further Research

The impetus for this research was the crucial need to prepare preservice teachers to successfully teach in the changing and more diverse general education classrooms. To date, little research has been completed with preservice teachers to determine their competencies to teach students with varying abilities within inclusive general education classrooms. This research clearly demonstrates the amount of content knowledge and practicum experiences affects preservice students' attitudes concerning their abilities to be successful in the inclusive environment. Unfortunately, this study did not conclusively find students enrolled in the megamethods curriculum were significantly different from students enrolled in the traditional curriculum in regard to their preparation rating scores. Six implications for further research are discussed to advance the current knowledge in these areas.

First, this research should be replicated in a longitudinal study in order to measure individual student growth over time. This type of study would more securely substantiate the findings reported in the literature.

Second, since the megamethods curriculum is continuously being revised, it would be interesting to track the implemented changes and compare the results of the group reported in this study to future groups. This information could help faculty members make judgments about the megamethods curriculum based on quantitative facts coupled with situational feedback.
It would also be interesting to determine if preservice students perceived the items on the survey as important or necessary to the success of teaching in inclusive classrooms. Would this information reflect the same level of preparation scores? Each item included on the ICTBRS represents a theoretical perspective, based on the literature, about skills that are important and required of teachers to successfully teach students with varying abilities. Therefore, it would be interesting to investigate if preservice students felt these skills were important based on theory discussed in their respective coursework. Students' perceived preparation to execute these skills represents a more practical aspect of their educational experience, i.e. how they believe their coursework and practica experience has prepared them to implement these skills. Information collected on both importance and preparation could impact the content delivered to promote a tighter connection between theory and practice. This then would create course content and accompanying experiences emphasizing skills put forth in the literature as being necessary to successfully teach in inclusive environments. If postsecondary schools were successful in communicating theoretical and practical course content, preservice teachers' ratings on both measures would be very similar to each other.

Fourth, it would be interesting to continue this same research with the same population as they completed their student teaching and after completion of years one and five of professional teaching. If differences do exist currently, will those differences continue to be significantly different or will there be a leveling effect? If there is a leveling effect, when will this begin to take place?

In addition, subsequent studies on the two curricula offered at Iowa State University may wish to adopt the $p < .10$ level. This study was interested in the generalizations and trends of student attitudes and ratings as they related to a specific curriculum. When directions of a trend are important, a less substantial departure from the null hypothesis might provide legitimate evidence of the trend. Any results found in this or subsequent studies do not harm individual preservice education students, do not affect scores obtained in the data
collection process, do not impact self-awareness negatively, and concluding one curriculum offered at Iowa State University is different from another does not negatively impact its respective students. With the small sample size, the precision of the statistical measure is compromised. The impact of the sample size was evident in this study with the reported large standard error and calculated t values.

Finally, the state of Iowa is currently looking at dually certifying preservice teachers in general education and special education. As Iowa State University changes its curricula to reflect this movement, the ICTBRS could be used as a check to determine how students perceived any curricular change in regard to their ability to demonstrate these essential skills in the general education classroom.

Conclusions

A review of the related literature and research suggests the infusion of special education content into general education teacher preparation programs is imperative to the successful implementation of inclusionary practices. However, there is little empirical research to date examining the complexity of this type of teacher preparation program.

This study investigated the effects of two different teacher preparation curricula implemented at Iowa State University. The megamethods curriculum was used to represent an improved teacher preparation program, such as that suggested in the literature. The traditional curriculum represented the current or traditional way preservice students had been prepared to teach in general education.

The literature reports individuals who elect to teach in inclusive classrooms require both content knowledge and first-hand experiences with students with diverse learning needs. While this information is intuitively appealing and abundantly supported in the literature reviewed, this study, due to its previously discussed limitations, failed to show statistically significant differences in preservice teachers’ ratings of their competencies to teach in inclusive classrooms as a result of two differing preparation formats. However, if
longitudinal data was provided, the findings in the literature may be substantiated. As a part of this study, the Inclusive Classroom Teacher Behavior Rating Scale was developed based on the characteristics teachers exhibited when accommodating for diverse learners. It is hoped this instrument will provide useful information for other colleges and universities interested in changing their own preservice teacher curriculum to reflect the delivery services implemented in today's public schools. This study did substantiate the literature's findings regarding content knowledge and direct experience for preservice teachers enrolled within the traditional curriculum at Iowa State University. At this point further information is required to draw more specific conclusions.
APPENDIX A: INCLUSIVE CLASSROOM TEACHER BEHAVIOR RATING SCALE
INCLUSIVE CLASSROOM TEACHER BEHAVIOR RATING SCALE

Demographic Information

1. Please write the last four digits of your social security number:__________

2. Please write your current Grade Point Average: __________________________

For the following questions, circle the response that best describes you.

3. Gender: Male Female

4. Age: 18-25 26-30 31-35 36-40 40 +

5. Which of the following classes are you finishing this semester?
   Block 1  Block 2  Block 3  Megamethods

6. Which program are you enrolled in at Iowa State University?
   BCE  EIEd  ROEE  Project Opportunity  SecEd

7. Are you completing a special education endorsement at Iowa State University?
   Yes  No

8. Approximately how many practicum clock hours have you completed?
   1-24  25-49  50-74  75 hrs. and above

9. What are the total number of credit hours you have completed at Iowa State University (include this semester)?
   less than 55  55-100  101-110  111-121  122 or more
INCLUSIVE CLASSROOM TEACHER BEHAVIOR RATING SCALE

On this instrument you are to study each of the items regarding teacher characteristics. Next, rate your ability to demonstrate each of these characteristics.

Circle the number after each item indicating:

<table>
<thead>
<tr>
<th>Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>---------------</td>
</tr>
</tbody>
</table>

1. I believe I have not been prepared to execute this skill
2. I believe I am poorly prepared to execute this skill
3. I believe I am somewhat prepared to execute this skill
4. I believe I am adequately prepared to execute this skill
5. I believe I am well prepared to execute this skill
6. I believe I am extremely well prepared to execute this skill
7. I do not believe this skill will be important in my classroom

Skill 1: Maintain student interest during the learning activity
Skill 2: Effectively communicate curriculum content for student learning
Skill 3: Spontaneously react to individual student learning needs while teaching
Skill 4: During teaching evaluate the understanding of curriculum content of students with a history of academic difficulties
Skill 5: Facilitate differing group activities for student learning
Skill 6: Utilize technology to support or supplement instruction in the inclusive classroom
Skill 7: Assess student prior knowledge in all academic areas
Skill 8: Create and implement an Individual Education Plan for a student with autism

Skill 9: Establish appropriate goals to accommodate students, especially those experiencing severe reading difficulties

Skill 10: Informally evaluate student learning of content material

Skill 11: Appropriately form questions during instruction

Skill 12: Challenge a variety of student learning levels through the delivery of course content

Skill 13: Administer, score, and interpret the Weschler Intelligence Test

Skill 14: Understand the purpose of grouping students for learning

Skill 15: Provide immediate feedback to students identified as having behavioral problems

Skill 16: Evaluate student learning during instruction

Skill 17: Motivate low functioning students within the inclusive classroom to promote learning
<table>
<thead>
<tr>
<th>Skill</th>
<th>Description</th>
<th>Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Plan different group activities for student learning</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>19</td>
<td>Organize information to be learned in a variety of different ways to accommodate students who typically perform well below the average learner</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>20</td>
<td>Provide appropriate feedback to individual students</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>21</td>
<td>Formally evaluate student learning of content material</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>22</td>
<td>Implement an effective reward system</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>23</td>
<td>Utilize a wide variety of reward systems to accommodate different learner needs in the general education classroom</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>24</td>
<td>Plan and provide adequate academic learning time to accommodate the slower learners in the general education classroom</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>25</td>
<td>Facilitate or lead a multidisciplinary team meeting</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>26</td>
<td>Use of a variety of different strategies in the delivery of content material</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>27</td>
<td>Create a variety of different question types, i.e. open-ended questions, factual questions, etc.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>28</td>
<td>Utilize a variety of supplemental materials in the inclusive classroom</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Skill</td>
<td>Description</td>
<td>Preparation</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>29</td>
<td>Establish an effective reward system for students who require more help with attending to task and academic achievement</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>30</td>
<td>Demonstrate appropriate questioning behaviors while teaching, i.e. wait-time, redirecting, clarification, sequencing, etc.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>31</td>
<td>Closely monitor the content learning of students who struggle academically with many learning tasks</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>32</td>
<td>Plan and present a proposed financial budget for your classroom</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>33</td>
<td>Group students homogeneously when needed</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>34</td>
<td>Utilize learning centers as a means of supplementing or supporting curriculum content</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>35</td>
<td>Create curriculum based learning centers for any student within the general education classroom</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>36</td>
<td>Create different questions on variety of cognitive levels, e.g. on all 6 levels of Bloom's taxonomy</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>37</td>
<td>Vary reinforcement given for correct/incorrect responses</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>Skill</td>
<td>Description</td>
<td>Not Prepared</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Skill 38:</td>
<td>Develop and implement a school-wide behavior Intervention program</td>
<td>1</td>
</tr>
<tr>
<td>Skill 39:</td>
<td>Group students heterogeneously when needed</td>
<td>1</td>
</tr>
<tr>
<td>Skill 40:</td>
<td>Respond appropriately to students' partially correct, silly, guess, or no response answers</td>
<td>1</td>
</tr>
</tbody>
</table>
APPENDIX B: LIE ITEMS
LIE ITEMS

The five lie items found on The Inclusive Classroom Teacher Behavior Rating Scale and their corresponding survey numbers are:

1. Create and implement an Individual Education Plan for a student with autism (Item #8).
2. Administer, score, and interpret the Weschler Intelligence Scale for Children - Revised (Item #14).
3. Facilitate or lead a multidisciplinary team meeting (Item #26).
4. Plan and present a proposed financial budget for your classroom (Item #33).
5. Develop and implement a school-wide behavior intervention program (Item #39).
APPENDIX C: SENSITIVITY ITEMS
SENSITIVITY ITEMS

The eight items found on The Inclusive Classroom Teacher Behavior Rating Scale and their corresponding survey numbers are:

1. During teaching evaluate the understanding of curriculum content of students with a history of academic difficulties (Item #4).

2. Establish appropriate goals to accommodate students, especially those experiencing severe reading difficulties (Item #9).

3. Provide immediate feedback to students identified as having behavioral problems (Item #15).

4. Motivate low functioning students within the inclusive classroom to promote learning (Item #17).

5. Organize information to be learned in a variety of different ways to accommodate students who typically perform well below the average learner (Item #19).

6. Plan and provide adequate academic learning time to accommodate the slower learners in the general education classroom (Item #24).

7. Establish an effective reward system for students who require more help with attending to task and academic achievement (Item #29).

8. Closely monitor the content learning of students who struggle academically with many learning tasks (Item #31).
TEACHER CHARACTERISTICS

Phase 1: The categories listed on this instrument in bold print represent qualities which the literature reports teachers need to demonstrate in order to effectively teach. Each category is followed by a number of items which you are to decide if each is representative of that category of teacher characteristics. Place a check in the space provided after each item indicating: YES, it accurately reflects the category; or, NO, it does not accurately reflect the category. Additional spaces are provided at the end of each category for you to add qualities you feel should be included on the list.

Grouping Students for Instruction

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Group students homogeneously when needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Group students heterogeneously when needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Understand the purpose of grouping students for learning</td>
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</tbody>
</table>

Additional qualities important to this category:

________________________________________________________________________

________________________________________________________________________

Structuring Information (explanatory presentation of organized information)

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Organize information to be learned in a variety of different ways to accommodate students who are performing below average</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Effectively communicate curriculum content for student learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Use of a variety of different strategies in the delivery of content material</td>
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</table>

Additional qualities important to this category:

________________________________________________________________________

________________________________________________________________________
### Soliciting Information (monitoring and evaluating student learning)

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
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<tbody>
<tr>
<td>7. Monitor the content learning of students who are academically challenged</td>
<td></td>
<td></td>
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<tr>
<td>8. Formally evaluate student learning of content material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Informally evaluate student learning of content material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Provide adequate academic learning time to accommodate all types of learners in the general education classroom</td>
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</table>

Additional qualities important to this category:

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### Reacting to Student Responses (providing appropriate feedback)

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td>11. Provide appropriate feedback to individual students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Evaluate the marginal student's understanding of curriculum content while teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Spontaneously react to individual student learning needs while teaching</td>
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</tbody>
</table>

Additional qualities important to this category:

---
Teacher Expectations For Student Learning

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Establish appropriate goals to accommodate students experiencing reading difficulties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Challenge a variety of student learning levels through the delivery of course content</td>
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</table>

Additional qualities important to this category:

Manipulation of Organizational Structures of Class Groups

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td>16. Plan different group activities for student learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Facilitate differing group activities for student learning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional qualities important to this category:
Learning Centers

The ability to:

YES  NO
18. Create curriculum based learning centers to accommodate a variety of needs in the inclusive classroom
   
19. Utilize learning centers as a means of supplementing or supporting curriculum content
   
Additional qualities important to this category:


Reward Structures

The ability to:

YES  NO
20. Utilize a wide variety of reward systems to accommodate different learner needs in the general education classroom
   
21. Establish an effective reward system for students who struggle with academic achievement
   
22. Implement an effective reward system
   
Additional qualities important to this category:


### Vary Support Materials

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td>23. Utilize a variety of supplemental materials in the inclusive classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Utilize technology to support or supplement instruction in the inclusive classroom</td>
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</tbody>
</table>

Additional qualities important to this category:

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### Vary Level and Form of Questions Asked

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>25. Appropriately form questions during instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Create a variety of different question types, i.e. open-ended questions, factual questions, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Create different questions on variety of cognitive levels, e.g. on all 6 levels of Bloom's taxonomy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Demonstrate appropriate questioning behaviors while teaching, i.e. wait-time, redirecting, clarification, sequencing, etc.</td>
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</tbody>
</table>

Additional qualities important to this category:

---
### Vary Reinforcement Given for Correct/Incorrect Responses

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td>29. Vary reinforcement given for correct/incorrect responses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Provide immediate feedback to students exhibiting behavior problems</td>
<td></td>
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</tbody>
</table>

Additional qualities important to this category:

### Awareness of Student Cognition and Motivation with Respect to Learning

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Motivate all students within the inclusive classroom for learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Maintain student interest during the learning activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Assess student prior knowledge in all academic areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. Evaluate student learning during instruction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional qualities important to this category:
APPENDIX E: TEACHER CHARACTERISTICS FEEDBACK
The categories listed on this instrument in bold print represent qualities which the literature reports teachers need to demonstrate in order to effectively teach. Each category is followed by a number of items which you are to decide if each is representative of that category of teacher characteristics. Place a check in the space provided after each item indicating: YES, it accurately reflects the category; or, NO, it does not accurately reflect the category. Additional spaces are provided at the end of each category for you to add qualities you feel should be included on the list.

**Grouping Students for Instruction**

The ability to:

1. Group students homogeneously when needed
2. Group students heterogeneously when needed
3. Understand the purpose of grouping students for learning

*Group size is important*

*Personalities within groups important*

**Structuring Information (explanatory presentation of organized information)**

The ability to:

4. Organize information to be learned in a variety of different ways to accommodate students who are performing below average
5. Effectively communicate curriculum content for student learning
6. Use of a variety of different strategies in the delivery of content material

*Consider a variety of modalities*

*Structure learning so it is developmentally appropriate*

* italicized words represent feedback from practicing teachers*
## Soliciting Information (monitoring and evaluating student learning)

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Monitor the content learning of students who are academically challenged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Formally evaluate student learning of content material</td>
<td></td>
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<td>9. Informally evaluate student learning of content material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Provide adequate academic learning time to accommodate all types of learners in the general education classroom</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Provide student self-evaluation*

## Reacting to Student Responses (providing appropriate feedback)

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Provide appropriate feedback to individual students</td>
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<tr>
<td>12. Evaluate the marginal student's understanding of curriculum content while teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Spontaneously react to individual student learning needs while teaching</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Evaluate the very capable Ss thoughts about the curriculum content and make decisions about how to further extend or enrich that Ss learning*

* italicized words represent feedback from practicing teachers*
Teacher Expectations For Student Learning

The ability to:

YES NO

14. Establish appropriate goals to accommodate students experiencing reading difficulties

15. Challenge a variety of student learning levels through the delivery of course content

Communicate goals in content areas
Provide practice and review
Do not put a lid on expectations of Ss
Open-ended expectations/goals to allow Ss to limitless levels of understanding

Organizational Structures of Class Groups

The ability to:

YES NO

16. Plan different group activities for student learning

17. Facilitate differing group activities for student learning

Facilitate cooperative learning groups

Learning Centers

The ability to:

YES NO

18. Create curriculum based learning centers to accommodate a variety of needs in the inclusive classroom

19. Utilize learning centers as a means of supplementing or supporting curriculum content

Centers should be open-ended and based on Ss interest so they can do projects and research

* italicized words represent feedback from practicing teachers
Reward Structures

The ability to:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. Utilize a wide variety of reward systems to accommodate different learner needs in the general education classroom</td>
<td></td>
</tr>
<tr>
<td>21. Establish an effective reward system for students who struggle with academic achievement</td>
<td></td>
</tr>
<tr>
<td>22. Implement an effective reward system</td>
<td></td>
</tr>
</tbody>
</table>

Intrinsic rewards
Teach self-management skills
Establish group reward systems for all class members

Vary Support Materials

The ability to:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>23. Utilize a variety of supplemental materials in the inclusive classroom</td>
<td></td>
</tr>
<tr>
<td>24. Utilize technology to support or supplement instruction in the inclusive classroom</td>
<td></td>
</tr>
</tbody>
</table>

Vary Level and Form of Questions Asked

The ability to:  

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>25. Appropriately form questions during instruction</td>
<td></td>
</tr>
<tr>
<td>26. Create a variety of different question types, i.e. open-ended questions, factual questions, etc.</td>
<td></td>
</tr>
<tr>
<td>27. Create different questions on variety of cognitive levels, e.g. on all 6 levels of Bloom’s taxonomy</td>
<td></td>
</tr>
<tr>
<td>28. Demonstrate appropriate questioning behaviors while teaching, i.e. wait-time, redirecting, clarification, sequencing, etc.</td>
<td></td>
</tr>
</tbody>
</table>

Teach Ss to ask good questions
Questions should facilitate learning and push them to higher levels of understanding/performance

* italicized words represent feedback from practicing teachers
Vary Reinforcement Given for Correct/Incorrect Responses

The ability to:

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>29. Vary reinforcement given for correct/incorrect responses</td>
<td></td>
</tr>
<tr>
<td>30. Provide immediate feedback to students exhibiting behavior problems</td>
<td></td>
</tr>
</tbody>
</table>

Knowledge of how to respond to incorrect, partially correct, silly, guess, or no responses

Distribution of responses

Teach behavioral strategies: time-out, self-talk, cues

Awareness of Student Cognition and Motivation with Respect to Learning

The ability to:

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Motivate all students within the inclusive classroom for learning</td>
<td></td>
</tr>
<tr>
<td>32. Maintain student interest during the learning activity</td>
<td></td>
</tr>
<tr>
<td>33. Assess student prior knowledge in all academic areas</td>
<td></td>
</tr>
<tr>
<td>34. Evaluate student learning during instruction</td>
<td></td>
</tr>
</tbody>
</table>

Allow time for children to share their learning

* italicized words represent feedback from practicing teachers
APPENDIX F: TEACHER CHARACTERISTICS: PHASE 2
TEACHER CHARACTERISTICS

Phase 2: As you are probably aware, many special education students who are mildly/moderately disabled or academically/behaviorally disabled receive all or most of their education in the general education classroom. This arrangement is currently being referred to as the inclusive classroom. In this phase you are to decide which of the items on this instrument primarily address special needs students included within the general education classroom. Place a check in the SpEd column if you feel the item is primarily for special education students or a check in the GenEd column if you feel the item is primarily for general education students. You must select one and only one choice per item.

### Grouping Students for Instruction

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>SpEd</th>
<th>GenEd</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Group students homogeneously when needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Group students heterogeneously when needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Understand the purpose of grouping students for learning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Structuring Information (explanatory presentation of organized information)

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>SpEd</th>
<th>GenEd</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Organize information to be learned in a variety of different ways to accommodate students who are performing below average</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Effectively communicate curriculum content for student learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Use of a variety of different strategies in the delivery of content material</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Soliciting Information (monitoring and evaluating student learning)

The ability to:

7. Monitor the content learning of students who are academically challenged

8. Formally evaluate student learning of content material

9. Informally evaluate student learning of content material

10. Provide adequate academic learning time to accommodate all types of learners in the general education classroom

Reacting to Student Responses (providing appropriate feedback)

The ability to:

11. Provide appropriate feedback to individual students

12. Evaluate the marginal student's understanding of curriculum content while teaching

13. Spontaneously react to individual student learning needs while teaching

Teacher Expectations For Student Learning

The ability to:

14. Establish appropriate goals to accommodate students experiencing reading difficulties

15. Challenge a variety of student learning levels through the delivery of course content

Manipulation of Organizational Structures of Class Groups

The ability to:

16. Plan different group activities for student learning

17. Facilitate differing group activities for student learning
Learning Centers

The ability to:

18. Create effective learning centers to accommodate a variety of needs in the inclusive classroom

19. Utilize learning centers as a part of the learning process

Reward Structures

The ability to:

20. Utilize a wide variety of reward systems to accommodate different learner needs in the general education classroom

21. Establish an effective reward system for students who struggle with academic achievement

22. Implement an effective reward system

Vary Support Materials

The ability to:

23. Utilize a variety of support materials in the inclusive classroom

Vary Level and Form of Questions Asked

The ability to:

24. Appropriately form questions during instruction

25. Create a variety of different question types, i.e. open-ended questions, factual questions, etc.

26. Create different questions on variety of cognitive levels, e.g. on all 6 levels of Bloom’s taxonomy

27. Demonstrate appropriate questioning behaviors while teaching, i.e. wait-time, redirecting, clarification, sequencing, etc.
### Vary Reinforcement Given for Correct/Incorrect Responses

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>SpEd</th>
<th>GenEd</th>
</tr>
</thead>
<tbody>
<tr>
<td>28. Vary reinforcement given for correct/incorrect responses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Provide constructive feedback to students exhibiting behavior problems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Awareness of Student Cognition and Motivation with Respect to Learning

The ability to:

<table>
<thead>
<tr>
<th></th>
<th>SpEd</th>
<th>GenEd</th>
</tr>
</thead>
<tbody>
<tr>
<td>30. Motivate all students within the inclusive classroom for learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Maintain student interest during the learning activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Assess student prior knowledge of content areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Assess student learning during instruction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX G: INCLUSIVE CLASSROOM
TEACHER BEHAVIOR RATING SCALE: CLUSTER FORMAT
RATING SCALE

Phase 2: Many special education students who are mildly/moderately disabled or academically/behaviorally disabled receive all or most of their education in the general education classroom. This arrangement is currently being referred to as the inclusive classroom.

The thirty-five items below are clustered to create eight groups. Each item represents a characteristic of an effective teacher. You are to identify one item in each cluster that contains both a skill and a description of a student with special needs by placing a check in the space provided. If the item primarily addresses a characteristic an effective teacher exhibits when working with any student within the general education classroom you need not mark anything.

CLUSTER ONE

This item primarily addresses students with special needs

An effective teacher demonstrates the ability to:

1. Maintain student interest during the learning activity
   
2. Effectively communicate curriculum content for student learning
   
3. Spontaneously react to individual student learning needs while teaching
   
4. During teaching evaluate the understanding of curriculum content of students experiencing academic difficulties

CLUSTER TWO

This item primarily addresses students with special needs

5. Facilitate differing group activities for student learning
   
6. Utilize technology to support or supplement instruction in the general education classroom
   
7. Assess student prior knowledge in all academic areas
   
8. Establish appropriate goals to accommodate student, especially those experiencing severe reading difficulties
CLUSTER THREE

This item primarily addresses students with special needs

9. Informally evaluate student learning of content material

10. Appropriately form questions during instruction

11. Challenge student learning on various cognitive levels through the delivery of course content

12. Provide immediate feedback to students identified as having behavioral problems due to disruptive or aggressive behaviors

13. Group students heterogeneously when needed

CLUSTER FOUR

This item primarily addresses students with special needs

14. Understand the purpose of grouping students for learning

15. Evaluate student learning during instruction

16. Motivate students with low abilities within the inclusive classroom

17. Respond appropriately to students' partially correct, sill, guess, or no response answers

CLUSTER FIVE

This item primarily addresses students with special needs

18. Plan different group activities for student learning

19. Organize information to be learned in a variety of different ways to accommodate students who typically perform well below the average learner

20. Provide appropriate feedback to individual students

21. Formally evaluate student learning of content material

22. Create curriculum based learning centers for any student within the general education classroom
CLUSTER SIX

This item primarily addresses students with special needs

23. Implement an effective reward system

24. Utilize a wide variety of reward systems to accommodate learner needs in the general education classroom

25. Plan and provide adequate academic learning time to accommodate the very slow learner in the general education classroom

26. Use a variety of different strategies in the delivery of content material

27. Vary reinforcement given for correct/incorrect responses

CLUSTER SEVEN

This item primarily addresses students with special needs

28. Create a variety of different question types, i.e. open-ended question, factual question, etc.

29. Utilize a variety of supplemental material in the inclusive classroom

30. Establish an effective reward system for students who exhibit attending problems and poor academic achievement

31. Create different question on a variety of cognitive levels, e.g. on all 6 levels of Bloom's taxonomy
CLUSTER EIGHT

This item primarily addresses students with special needs

32. Demonstrate appropriate questioning behaviors while teaching, i.e. wait-time, redirecting, clarification, sequencing, etc.

33. Closely monitor the content learning tasks of students who fall academically behind their peers

34. Group student homogeneously when needed

35. Utilize learning centers as a means of supplementing or supporting curriculum content
APPENDIX H: INCLUSIVE CLASSROOM TEACHER BEHAVIOR RATING SCALE:
VALIDITY FORM
INCLUSIVE CLASSROOM TEACHER BEHAVIOR RATING SCALE

**Phase 1:** The categories listed on this instrument in bold print represent qualities which the literature reports teachers need to demonstrate in order to effectively teach all children. Each category is followed by a number of items which you are to decide if each is representative of that category of teacher characteristics.

Place a check in the space provided after each item indicating: **YES,** it accurately reflects the category; or, **NO,** it does not accurately reflect the category.

**Grouping Students for Instruction**

The ability to:

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Group students homogeneously when needed</td>
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<td>2. Group students heterogeneously when needed</td>
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<tr>
<td>3. Understand the purpose of grouping students for learning</td>
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</tbody>
</table>

**Structuring Information (explanatory presentation of organized information)**

The ability to:

<table>
<thead>
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<tbody>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. Organize information to be learned in a variety of different ways to accommodate students who typically perform well below average</td>
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</tr>
<tr>
<td>5. Effectively communicate curriculum content for student learning</td>
<td></td>
</tr>
<tr>
<td>6. Use of a variety of different strategies in the delivery of content material</td>
<td></td>
</tr>
</tbody>
</table>
Soliciting Information (monitoring and evaluating student learning)

The ability to:

7. Closely monitor the content learning tasks of students who fall academically behind their peers  
   YES  NO
8. Formally evaluate student learning of content material  
   YES  NO
9. Informally evaluate student learning of content material  
   YES  NO
10. Plan and provide adequate academic learning time to the very slow learner in the general education classroom  
    YES  NO

Reacting to Student Responses (providing appropriate feedback)

The ability to:

11. Provide appropriate feedback to individual students  
    YES  NO
12. During teaching evaluate the understanding of curriculum content of students experiencing academic failure  
    YES  NO
13. Spontaneously react to individual student learning needs while teaching  
    YES  NO

Teacher Expectations For Student Learning

The ability to:

14. Establish appropriate goals to accommodate students, especially those experiencing severe reading difficulties  
    YES  NO
15. Challenge student learning on various cognitive levels through the delivery of course content  
    YES  NO
Manipulation of Organizational Structures of Class Groups

The ability to:

16. Plan different group activities for student learning
17. Facilitate differing group activities for student learning

Learning Centers

The ability to:

18. Create curriculum based learning centers for any student within the general education classroom
19. Utilize learning centers as a means of supplementing or supporting curriculum content

Reward Structures

The ability to:

20. Utilize a wide variety of reward systems to accommodate learner needs in the general education classroom
21. Establish an effective reward system for students who exhibit attending problems and poor academic achievement
22. Implement an effective reward system
23. Provide immediate feedback to students identified as having behavioral problems due to disruptive or aggressive behaviors

Vary Support Materials

The ability to:

24. Utilize a variety of supplemental materials in the inclusive classroom
25. Utilize technology to support or supplement instruction in the general education classroom
Vary Level and Form of Questions Asked

The ability to:

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.</td>
<td>Appropriately form questions during instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>Create a variety of different question types, i.e. open-ended questions, factual questions, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>Create different questions on variety of cognitive levels, e.g. on all 6 levels of Bloom's taxonomy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>Demonstrate appropriate questioning behaviors while teaching, i.e. wait-time, redirecting, clarification, sequencing, etc.</td>
<td></td>
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</tbody>
</table>

Vary Reinforcement Given for Correct/Incorrect Responses

The ability to:

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.</td>
<td>Vary reinforcement given for correct/incorrect responses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31.</td>
<td>Respond appropriately to students' partially correct, silly, guess, or no response answers</td>
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<td></td>
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</tbody>
</table>

Awareness of Student Cognition and Motivation with Respect to Learning

The ability to:

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.</td>
<td>Motivate students with low abilities to learn within the inclusive classroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33.</td>
<td>Maintain student interest during the learning activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34.</td>
<td>Assess student prior knowledge in all academic areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>Evaluate student learning during instruction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX I: HUMAN SUBJECTS FORM
Information for Review of Research Involving Human Subjects
Iowa State University
(Please type and use the attached instructions for completing this form)

1. Title of Project: Preservice Teachers' Self-Ratings of Their Competencies to Teach in Inclusive General Education Classrooms

2. I agree to provide proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to this committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree to request renewal of approval for any project continuing more than one year.

Kathy Hinders 3-22-96
Typed name of Principal Investigator Date Signature of Principal Investigator

Curriculum and Instruction N162 Lagomarcino 294-5114
Department Campus Address Campus Telephone

3. Signatures of other investigators Date Relationship to Principal Investigator
Dale D. Baum, Co-Chair 3-22-96
Paricia M. Carlson, Co-Chair 3-22-96

4. Principal Investigator(s) (check all that apply)
- Faculty - Staff - X Graduate Student - Undergraduate Student

5. Project (check all that apply)
- Research - X Thesis or Dissertation - Class Project - Independent Study (490, 590, etc.)

6. Number of subjects (complete all that apply)
- # Adults, non-students 251 - #ISU Students - # Minors under 14 - Other (explain)
- # Minors 14 - 17

7. Brief description of proposed research involving human subjects: (See Instructions, Item 7. Use an additional page if needed.)
This study is longitudinal in nature and will use a survey instrument to measure preservice students' self-ratings of their competencies to teach students with different abilities within inclusive general education classrooms. The survey will be administered to preservice education students upon completion of the Block methods courses offered at Iowa State University, upon completion of students teaching experience, and after one and five years of professional teaching.

The attached survey instrument titled Inclusive Classroom Teacher Behavior Rating Scale will be used for the data collection. There are a total of 35 items included on the instrument. No change will occur in the items contained on the survey instrument, however, periodically these same 35 items will be randomized before administration.

(Please do not send research, thesis, or dissertation proposals.)

8. Informed Consent:
- Signed informed consent will be obtained. (Attach a copy of your form.)
- X Modified informed consent will be obtained. (See instructions, item 8.)
- Not applicable to this project.
9. Confidentiality of Data: Describe below the methods to be used to ensure the confidentiality of data obtained. (See instructions, Item 9.)

Since this study is longitudinal in nature, each survey will be identified by the preservice students' last four digits of their social security number for purposes of follow-up studies. Findings from this study will be reported as group data and no mention of specific individuals will be given.

10. What risks or discomforts will be part of the study? Will subjects in the research be placed at risk or incur discomfort? Describe risks to the subjects and precautions that will be taken to minimize them. (The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological or emotional risk. (See instructions, Item 10.)

None.

11. CHECK ALL of the following that apply to your research:
   - A. Medical clearance necessary before students can participate
   - B. Samples (Blood, tissue, etc.) from subjects
   - C. Administration of substances (food, drugs, etc.) to subjects
   - D. Physical exercise or conditioning for subjects
   - E. Deception of subjects
   - F. Subjects under 14 years of age and/or Subjects 14 - 17 years of age
   - G. Subjects in institutions (Nursing homes, prisons, etc.)
   - H. Research must be approved by another institution or agency (Attach letters of approval)

If you checked any of the items in 11, please complete the following in the space below (include any attachments):

Items A - D Describe the procedures and notes the safety precautions being taken.

Item E Describe how subjects will be deceived; justify the deception; indicate the debriefing procedure, including the timing and information to be presented to subjects.

Item F For subjects under the age of 14, indicate how informed consent from parents or legally authorized representatives as well as from subjects will be obtained.

Item G & H Specify the agency or institution that must approve the project. If subjects in any outside agency or institution are involved, approval must be obtained prior to beginning the research, and the letter of approval should be filed.
Checklist for Attachments and Time Schedule

The following are attached (please check):

12. **X** Letter or written statement to subjects indicating clearly:
   a) purpose of the research
   b) the use of any identifier codes (names, #’s), how they will be used, and when they will be removed (see Item 17)
   c) an estimate of time needed for participation in the research and the place
   d) if applicable, location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study, note when and how you will contact subjects later
   g) participation is voluntary; nonparticipation will not affect evaluations of the subject

13. ___ Consent form (if applicable)

14. ___ Letters of approval for research from cooperating organizations or institutions (if applicable)

15. **X** Data-gathering instruments

16. Anticipated dates for contact with subjects:
   **First Contact**
   **April 22, 1996**
   **Last Contact**
   **May, 2002**

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:
   **August 31, 1996**
   **Month/Day/Year**
   Student social security numbers will be removed from individual survey instruments five months following the date of each subsequent data collecting period. Example, identifiers on survey instruments during the data collection in December of 1996 will be removed on May 31, 1997.

18. Signature of Department Executive Officer  **Date**  **Department or Administrative Unit**
   
19. Decision of the University Human Subjects Review Committee:

   ___ Project Approved  ___ Project Not Approved  ___ No Action Required

   **Patricia M. Keith**
   Name of Chair Person  **Date**  **Signature of Committee Chairperson**
APPENDIX J: LETTER TO PRESERVICE STUDENTS
To: Iowa State University Preservice Students

Many special education students who are mildly/moderately disabled or academically/behaviorally disabled receive all or most of their education in the general education classroom. This arrangement is currently being referred to as the inclusive general education classroom. The following survey has been designed to measure your perceived competence to teach in the inclusive general education classroom. Of interest to this study is how well prepared you are to successfully teach in this type of setting.

The survey should take approximately 15 to 20 minutes to complete. Due to the fact that this study is longitudinal in nature, you will be asked to complete the survey at the end of each Block class completed at Iowa State University, upon completion of your student teaching experience, and after year one and year five of professional teaching. For this purpose, I am asking that you place the last four digits of your social security number on the survey in order to document individual change. Findings from this study will be reported as group data and no mention of specific individuals will be given.

Your completion of this survey indicates your willingness to be a part of this study. Continuation in the longitudinal study is encouraged, but not required. I appreciate your assistance in the development of this study. Your input will help to ensure a continued quality program offered here at Iowa State University.

Sincerely,

Kathy Hinders

Kathy Hinders
REFERENCES


Mesinger, J. (1985). Commentary on "A rationale for the merger of special and regular education" or, is it now time for the lamb to lie down with the lion?. Exceptional Children, 51(6), 510-512.


