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A study of the relationship between the mathematics and reading achievement of students with disabilities and inclusive practice in elementary schools

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A STUDY OF THE RELATIONSHIP BETWEEN THE MATHEMATICS AND READING

ACHIEVEMENT OF STUDENTS WITH DISABILITIES

AND INCLUSIVE PRACTICE IN ELEMENTARY SCHOOLS

A Dissertation

Presented to

the Faculty of the School of Education

The College of William and Mary in Virginia

In Partial Fulfillment

of the Requirements for the Degree
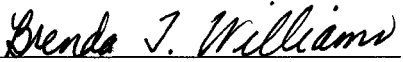
Doctor of Education

By

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April 2008

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DEDICATION

This dissertation is dedicated to my Lord and Savior, Jesus Christ who fulfilled the desire of my heart in opening the door for me to continue my education and granting me the grace to bring this journey to completion.

This work is also dedicated to my wonderful family, starting with my husband, Neal, who has always been the "wind beneath my wings." From start to finish, he has been an unwavering source of support and encouragement. I thank him for planting and watering the seed of big dreams and high expectations in my life. I also want to thank my children, Jonathan and Kirsten and my mother, Sheila, for their belief in me and their constant words of support that convinced me that I could be successful. Lastly, I want to dedicate this dissertation to my grandparents, Mary and Clifford Cheek, who taught me to value education and to never take the opportunity to learn for granted. They have always been a part of everything that I have accomplished and every goal I have ever achieved.

I am eternally grateful for my magnificent network of supporters as this experience comes to a close. It would not have been possible without each of you.

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Finally, I want to acknowledge all of my co-workers and friends who supported with their skills, talents and many, many prayers. Thank you so much for helping me to achieve this goal. I will be forever grateful to you all.

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ABSTRACT

The AYP (Adequate Yearly Progress) provision of NCLB requires schools to close the achievement gap so that students with disabilities perform at the same proficiency level as students without disabilities in mathematics and reading. This stringent requirement challenges school leaders to examine traditional exclusionary delivery practices and their outcomes and replace them with inclusive practices that hold promise for improving the academic performance of students with disabilities. This study examined the relationship between inclusive education in Virginia elementary schools and the attainment of No Child Left Behind's AYP performance targets in mathematics and reading for students with disabilities.

A quantitative research design was used to investigate this important issue using data from the Virginia Department of Education and results of an inclusion scale completed by selected elementary school principals representing schools that met AYP targets in mathematics and reading for students with disabilities and elementary principals representing schools that did not meet the targets. Although a significant correlation was not found between the inclusive practices and mathematics and reading achievement for students with disabilities in elementary schools, there are clear and important differences between schools that met the AYP targets and schools that did not meet the targets. These differences include the number of students with disabilities served in inclusive mathematics and reading classes as well as important distinctions in the attitudes of teachers and administrators, time allotted for co-planning, the expectations of included students with disabilities, parental participation in the IEP process and the availability of inclusion across grade levels.

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Chapter I

Introduction

The overarching goal of America's schools is to educate its children (Labaree, 1997). The accomplishment of this goal was called into question over twenty years ago by the National Commission on Excellence in Education when it declared that the nation was at risk due to the "rising tide of mediocrity" in public education (National Commission on Excellence in Education, [NCEE] 1983, p. 1). The report cited the steady decline in student performance on standardized assessments, the lack of fundamental literacy skills in reading, mathematics, and writing, and clear deficits in higher order thinking and problem-solving skills.

A Nation at Risk became the wake-up call to the American public in its disturbing observation that we were raising a generation of students who were not as well educated as the previous generation. The report quoted analyst Paul Copperman who concluded:

Each generation of Americans has outstripped its parents in education, in literacy, and in economic attainment. For the first time in the history of our country, the educational skills of one generation will not surpass, will not equal, will not even approach, those of their parents (p. 4).

Although this report focused primarily on the education afforded to average students, it clearly suggested that diverse populations could not be overlooked. As a nation, the report emphasized the necessity of educational access and the promise of a fair chance for all learners. At the time *A Nation at Risk* was written, the education of the average learner was clearly in jeopardy, but the education of students in diverse populations was even bleaker. As an example, the report cited a 13% rate of functional

illiteracy for all 17- year- olds compared to a rate as high as 40% for minority students. Although students with disabilities were not specifically mentioned in *A Nation at Risk*, special education programs were not immune from criticism. Exclusion from general education courses and the use of watered-down curricula resulted in poor graduation rates and dismal post-school outcomes for students with disabilities (Vohs, Landau & Romano, 1999).

The serious and complex issues voiced in *A Nation at Risk* sounded a call for dramatic and extensive changes in public education. Themes in the report, such as student achievement, content standards, and high expectations, later shaped the educational reform and accountability agenda for the nation's public schools. The policies resulting from *A Nation at Risk* challenged schools to raise student achievement for not only average students, but students in diverse groups as well.

Today, as schools face the challenge to fulfill their responsibility to all students, the achievement of diverse populations poses a significant dilemma. Minority students, economically disadvantaged students, and students with disabilities continue to experience significant lags in performance with students with disabilities experiencing the largest achievement gap (U.S. Department of Education, [U.S. DOE], Reading, 2005); U.S. Department of Education, [U.S. DOE], Mathematics 2005).

Closing this achievement gap for students with disabilities has emerged as one of the greatest challenges presented by the accountability movement (Welburn, 2001). School leaders, particularly building principals, find themselves shouldering the responsibility of demonstrating improved performance for all students in their buildings.

Educational accountability demands that principals identify and implement systems that increase the performance of all learners, particularly those in diverse groups and specifically those with disabilities

Congress responded to the need for the reform of public education presented in *A Nation at Risk* through numerous legislative initiatives. The foundation of the reform agenda rested on educational standards and accountability systems. Educational standards described the content that teachers are expected to teach and that students are expected to learn. Schools and students are directly accountable for the academic content described in the standards as measured by student performance on statewide assessments. Student performance, in essence became the cornerstone of the reform agenda as articulated through national educational goals such as Goals 2000 (Thurlow, 2002).

As the reform agenda took shape in general education, special education was also undergoing intense scrutiny. Although students with disabilities were being educated in public schools for the most part, scholars began to take issue with delivery methods and models. Scholars noted that special education had developed as a dual system apart from general education with its own curriculum, strategies, methods, and philosophical assumptions (Reynolds & Birch 1982; Skrtic, 1991; Stainback & Stainback, 1996). The need to reform public education as well as special education became clear as the accountability movement got underway. As educational policy and legislation emerged, the focus for students with disabilities was to move away from exclusionary practices towards greater inclusion.

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One of the most significant pieces of legislation to reform the education of students with disabilities was the Individuals with Disabilities Education Act Amendments (IDEA) of 1997 (PL 105-17). IDEA '97 provided one of the strongest mandates for the participation of students with disabilities in reform efforts by requiring state education agencies to establish performance goals for students with disabilities that were consistent, to the maximum extent appropriate, with the goals and standards for students without disabilities. Further the provisions of IDEA '97 required the inclusion of students with disabilities in statewide assessments and accountability systems thereby incorporating performance outcomes of students with disabilities into law (National Association of State Directors of Special Education [NASDSE], 2002).

Reforms in the education of students with disabilities were further expanded in the reauthorization of the Elementary and Secondary Education Act of 2001, better known as No Child Left Behind or NCLB. As the name implies, this law was designed to ensure that no child receives a substandard education by requiring each state to develop strong academic standards, which describe what all students should know in mathematics, reading, and science. Ninety-five percent of all students are expected to participate in state assessments in these content areas. Further, all students are expected to demonstrate proficiency or better on state tests in these areas by the 2013-2014 school year. No Child Left Behind also requires the disaggregation of assessment results into sub-groups for students who are economically disadvantaged, students from ethnic or minority groups, students with limited English proficiency, and students with disabilities. States are mandated to establish adequate yearly progress (AYP) starting points for

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student performance based on 2001-2002 state assessment results. In subsequent years, states must specify increasingly higher student performance targets to ensure that all students reach the proficient level or higher by 2013-2014 (National Center for Research on Evaluation Standards and Student Testing, 2003).

Further accountability in special education occurred on December 3, 2004, when IDEA '97 was reauthorized and signed into law. Renamed the Individuals with Disabilities Education Improvement Act of 2004, (IDEIA 2004) the law focused on two primary purposes: to improve educational results for students with disabilities and to ensure the alignment between state accountability systems with the accountability required in NCLB (Virginia Department of Education [VDOE], 2005).

Statement of the Problem

No Child Left Behind set forth a clear mandate for schools to move beyond merely providing students with disabilities educational access. Schools must also work towards closing the achievement gap so that students with disabilities perform at the same level as students without disabilities in mathematics, reading, and science.

The inclusion of students with disabilities in the accountability movement and the stringent requirements of NCLB have posed significant challenges to school leaders that have resulted in a need to examine traditional delivery practices and their resulting outcomes. An examination of past and current practices indicates that students with disabilities are often removed from general education classrooms and served in resource rooms, self-contained classrooms, and separate facilities (Brantlinger, 2001; Burrello, Lashley, & Beatty, 2001).

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Instructed to a significant extent outside of general education, it is not surprising that the academic performance of students with disabilities has lagged behind other students on statewide assessments. A report published by the National Center on Educational Outcomes, *Interpreting Trends in the Performance of Special Education Students* (Bielinski & Ysseldyke, 2000), portrayed the grim performance of students with disabilities. According to Bielinski and Ysseldyke, the differences in pass rates between students with disabilities and students without disabilities on statewide reading and mathematics assessments range from 23% to 47% respectively, with an average difference of 37%. Sadly, these alarming achievement gaps have proven to be consistent across grade levels and content areas.

The National Assessment of Educational Progress (NAEP), the only ongoing assessment of academic achievement given on a national basis, reported similar achievement results. By measuring student performance in grades 4 and 8 across the major content areas (reading, mathematics, science, and social studies), the NAEP is considered to be a solid indicator of student achievement and has become an important tool for monitoring achievement gaps between different populations of students. Reading assessment results for 2003 showed that only 57% of fourth grade students with disabilities scored at the basic or above level in reading compared to 83% of general education students (U.S. Department of Education, [U.S. DOE], Reading, 2005). NAEP reading assessment results for eighth grade revealed that students with disabilities performed at a 32% pass rate and students without disabilities at a 73% pass rate.

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Assessment results in mathematics indicated similar achievement lags. Only 34% of fourth grade students with disabilities performed at the basic level or above compared to 67% of fourth graders without disabilities. The performance of eighth grade students revealed that 34% of students with disabilities performed at the basic level or above, whereas 76% of students without disabilities performed at the basic level or above on the same assessment (NAEP, 2003). In addition to significant differences in academic achievement, there were also significant gaps in outcomes such as graduation and dropout rates between students with disabilities and their peers without disabilities.

The *25th Report to Congress on the Implementation of the Individuals with Disabilities Education Act* (United States Department of Education [US DOE], 2005) indicated that the graduation rate for students with disabilities, using a standard diploma as the measure, was 47.6 % for the 2000-2001 school year. This rate has been fairly consistent since 1995. Similarly, the dropout rate for students with disabilities during the same time period was 41.1%. A national study of school graduation rates of students without disabilities conducted by the Manhattan Institute of Policy Research (Greene & Winters, 2002) revealed a national graduation rate of 69%. The National Center for Education Statistics (2001) reported a drop-rate of 4.2 % for the same time period for students without disabilities.

Such staggering performance gaps for students with disabilities have suggested a need for a reconsideration of special education practice (Artiles, 2003; Lipsky, 2003, Lombardi & Ludlow, 1997). In order to reverse the achievement trends for students with disabilities, schools must grapple with how educational services to students with

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disabilities are delivered. The history of special education suggests that the continuation of exclusionary practices will not be useful in the era of educational reform. In light of the possibility that traditional exclusive practices may adversely impact the performance of students with disabilities, a serious look at the delivery of service through a more inclusive system is warranted.

IDEIA and NCLB mandate access to the general curriculum, inclusion in assessment and accountability systems, and overall improved performance. To this end, school leaders must consider how to move from exclusion to inclusion at the school building-level. This issue of improved performance is at the heart of accountability for students with disabilities.

Research suggests that inclusive service delivery models that include documented essential features produce favorable outcomes in performance related academic skills. (Rea, McLaughlin, & Walther-Thomas, 2002; Strieker & Logan, 2001; Wallace, Anderson, Bartholomay, & Hupp, 2002). Rea et al. found that middle school students with disabilities educated in inclusive settings faired better than students served in pullout models on indicators such as grades and standardized test scores. Strieker and Logan reported similar findings when elementary and middle school students with disabilities were educated in inclusive settings with their general education peers. Similarly, in a study of high school students with disabilities served in inclusive classrooms, Wallace et al. found that students with disabilities demonstrated improved behavior and academic engagement. Seemingly a growing body of evidence has linked inclusive practices to improved achievement of students with disabilities across grade levels.

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Purpose of the Study

The purpose of this study was to examine the relationship between inclusive education in Virginia elementary schools and the attainment of No Child Left Behind's AYP performance targets for students with disabilities. A study of this topic was needed to describe the present state of inclusive practice in Virginia and its relationship to the demands of accountability. Faced with accountability mandates, school leaders must identify structures and practices that fail to promote student performance and growth and replace them with systems that will benefit all students. The examination of an approach to special education service delivery that holds promise for improving the performance of students with disabilities has clear significance for all school leaders and staff. As a result of the urgent need for this information, the following questions were addressed:

1. To what extent are elementary schools in Virginia achieving the AYP target in mathematics for students with disabilities?

2. To what extent are elementary schools in Virginia achieving the AYP target in reading for students with disabilities?

3. To what degree are selected elementary schools practicing inclusion?

4. Is there a relationship between the achievement of the AYP target in mathematics for students with disabilities and inclusive practice in elementary schools?

5. Is there a relationship between the achievement of the AYP target in reading for students with disabilities and inclusive practice in

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elementary schools?

The students at the focus of these research questions were elementary students with disabilities identified under the Individuals with Disabilities Education Improvement Act (2004).

The Virginia Department of Education maintains data sets on the AYP status of all Virginia schools by school year. These data sets were used to identify the schools that met AYP targets for students with disabilities in mathematics and reading for the 2005 – 2006 school year and the schools that did not. This information was used to address Question #1 and Question #2.

Elementary schools that made AYP were placed into one group and elementary schools that did not make AYP were placed into another group. Schools that served more than one level (e.g., elementary school, middle school) in the same building were not included in this study. Seventy-five elementary schools were randomly selected from the schools that made AYP in mathematics and reading and seventy-five elementary schools were selected from the schools that did not make AYP in mathematics and reading; as a result the sample included a total of 150 elementary schools. Once all the elementary schools were identified, the principal of each school was contacted and asked to complete a survey addressing the essential features of inclusion. Results from the survey of the elementary schools that made AYP in mathematics and reading were compared to the elementary schools that did not make AYP to answer Question #3. AYP data were correlated with use of inclusive features data to determine if there is a relationship between the use of inclusive practice and achieving AYP targets in mathematics and

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reading for students with disabilities. This correlation was used to answers Questions #4 and #5.

Limitations and Delimitations

Rudestam and Newton (2001) define a limitation as a restriction to the study over which the researcher has no control and a delimitation as a restriction imposed by the research design used by the researcher. The use of a survey in this research design imposed a limitation on this study. Although survey research is viewed as an efficient tool for gathering information, concerns have been raised regarding the possibility that it may over-simplify complex issues by reducing the options for questions and responses (Mertens & McLaughlin, 2004). Clearly the topics of inclusion and achievement are complex and are fraught with a high level of concern on the part of school administrators; therefore, a comments section was added to provide an opportunity for participants to share additional information.

An additional limitation of this study is self-reporting. Although a valuable tool in educational research, Gall, Gall & Borg (2003) suggested that to obtain meaningful information, respondents must be cooperative and honest. In this study, elementary principals served as the primary respondents to the survey and report on the inclusive practice at their schools. To gain their cooperation and honest responses, Gall, Gall & Borg suggested appealing to their desire to contribute research knowledge by sharing the purpose and the findings of the study. In order to address each of these recommendations, the purpose of the study was included in the research cover letter (Appendix A) along with a commitment to share the findings the conclusion of the study.

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A delimitation in this study was that it defined students with disabilities as persons identified under IDEA and not under Section 504. An additional delimitation was that this study only used the AYP data from 2005-2006 to select the sample of schools that made AYP targets for mathematics and reading and the schools that did not.

Definition of Key Terms

In the context of this study the following terms are defined as stated below:

- *Accountability* – A system of policies and procedures that provide rewards and sanctions to students, school divisions, schools, and school staff as a consequence of student performance on state assessments (Nolet & McLaughlin, 2000).

- *Adequate Yearly Progress* (AYP) –A requirement of all public schools under NCLB to meet student performance targets or annual measurable objectives defined by the state within a specified timeframe (U.S. Department of Education, [U.S. DOE], Stronger Accountability, 2003). In Virginia, AYP requires a 95% participation rate in the state assessment programs for all students in the school and meeting performance targets in mathematics and reading. It also requires elementary schools to reach attendance targets and high schools to reach graduation targets. AYP applies to all students, as well as students in four sub-groups: students with disabilities; students with limited English proficiency; students who are economically disadvantaged; and students from racial minority groups.

- *Annual Measurable Objectives* – Virginia defines this term as the minimal percentage of students who must earn a proficient score on reading and

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mathematics assessments. The annual measurable objective is increased

periodically to move towards the 100% proficiency requirements, which must be

achieved by 2013-2014. In 2001-2002, the beginning target was 60.7% for

reading and 58.4 for mathematics. The target for 2005-06 was 69% for reading

and 67% for mathematics. It should be noted that the term annual measurable

objective is used interchangeably with the term "AYP target". In this study, the

term AYP target was used.

- *AYP Mathematic Target* – As defined by the Virginia Department of Education

  for schools in the Commonwealth, 67% of students tested must earn a proficiency

  score on the SOL mathematics tests.

- *AYP Reading Target* - As defined by the Virginia Department of Education for

  schools in the Commonwealth, 69% of students tested must earn a proficiency

  score on the SOL reading tests.

- *Elementary School* –An elementary school is any public school serving students

  in grades K – 5.

- *Inclusion* –Inclusion, as reported by elementary principals or their designees, exists in

  programs that exhibit overall features in organizational climate and culture, professional

  practice, and accountability to the extent that students with disabilities are instructed in

  the general education curriculum in general education classrooms along with their

  general education peers.

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- *Inclusive Classroom* - An inclusive classroom is a general education classroom where students with disabilities are assigned with age-appropriate peers and are provided with instructional supports to access the curriculum of the classroom.

- *School Leader*- A school leader is a person with administrative responsibility for a school and who has knowledge of the delivery system used to serve students with disabilities in the building.

- *Segregated Setting*- A setting in which students with disabilities are separated from students without disabilities for educational purposes for most of the school day.

- *Students with Disabilities* – In Virginia, this term is used for children between the ages of 2 and 21 who have been identified with disabilities under the Individuals with Disabilities Education Act. Fifteen disabilities categories are served under this act and include the following: autism, developmental delay (2 -5), developmental delay (5-8), deaf-blindness, emotional disturbance, hearing impairments/ deaf, learning disability, mental retardation, multiple disabilities, orthopedic impairments, other health impairments, severe disabilities, speech impairments, traumatic brain injury, and visual impairments (Virginia Department of Education [VDOE], 2002). It should be noted that Virginia's disability categories differ slightly from the federal categories. In Virginia, students identified under Section 504 of the Rehabilitation Act are not reported as students with disabilities for AYP calculations.

- *Students without Disabilities* – Children and youth educated through the general education program, also referred to as general education students.

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This chapter has provided an overview of the impact of national assessments of educational progress on the reform of public education and the challenges that confront school leaders to raise the bar for all students, particularly those with disabilities. In addition to discussing the accountability requirements of IDEIA and NCLB, Chapter I also described the use of an inclusive delivery system to help students with disabilities meet the same academic performance targets as students without disabilities.

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Chapter II

Review of Relevant Literature

Chapter II provides a historical overview of the status of public schools through

the lens of three national reports, the *Coleman Report, A Nation at Risk,* and the *Third*

International Mathematics and Science Report, which laid the groundwork for

educational reform. As the reform agenda took shape for most students across the nation,

and issues of student achievement were drawn into sharper focus, it became clear that

students with disabilities were struggling with the more basic issue of mere access to

public schools. This chapter discusses the exclusionary practices experienced by students

with disabilities in the provision of education and accountability. Both of these important

issues have been addressed at the national level through federal legislation: the Education

for All Handicapped Children Act and its subsequent amendments and the Elementary

and Secondary Education Act and its amendments. Additionally, this chapter examines

the use of inclusive arrangements for students with disabilities and the growing research

evidence supporting the use of such systems to provide quality education programs and

increased achievement.

Status of Public Education

Over the last fifty years, public schools have often been described as mediocre

and ineffective (Albretch & Joles, 2003). The launch of Sputnik in 1957 ignited a

firestorm of criticism and questions that the federal government attempted to address

through national studies and reports. The administration of President Lyndon Johnson

requested that the Commissioner of Education study the availability of educational

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opportunity. To this end, a massive study was conducted that included over 640,000 student participants in grades 1, 3, 6, and 12 and 60,000 teachers from 4000 schools (Marzano, 2003). The study entitled: *Equality in Education* (1966), better known as the *Coleman Report* concluded that schools only accounted for 10% of student achievement with the remaining 90% attributed to the student's background and environment. The findings were corroborated in a re-analysis of the results of the study conducted by Christopher Jencks in 1972. By determining that schools had limited impact on student achievement, the need to reform public schools appeared pointless (Marzano, 2003).

The federal view of the accountability of schools took a dramatic turn in 1983, however, with the release of a second federal report, *A Nation at Risk*. Rather than dismiss the role and impact of schools in student achievement, this report held schools directly responsible for student achievement and became the national outcry for the reform of public schools. The report cited the eroding position of the American workforce against the growing sophistication and accomplishment of workers from Japan, Germany and South Korea. Specific risk indicators discussed showed that the achievement of American students fell far behind other industrialized nations on nineteen academic assessments. Further cause for concern emerged as declines were noted on Scholastic Aptitude Tests (SAT) and achievement tests in courses such as physics and English. It appeared that high achievement had been replaced with the growing need for remedial courses for students when they exited high schools and entered programs in college, business, and the military. As a solution to the cited mediocrity, *A Nation at Risk* recommended that the country commit itself to excellence at the levels of the individual

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learner, schools, and society at large. Accordingly, excellence at the school level was to be defined by high expectations and national goals for all learners. Furthermore, *A Nation at Risk* recommended the individual development of each child's natural abilities, equal educational access for all students, a better understanding and use of effective school practices, continued financial support for education, government involvement in developing national goals, and stakeholder participation in strengthening education programs.

A Nation at Risk was followed by a third study, the *Third International Mathematics and Science (TIMSS) Report,* 1995, which became the final piece of compelling evidence for the reform of American schools. The TIMSS report discussed a cross-national comparison of educational systems in 41 nations. The study concluded that American fourth grade students performed well when compared to fourth graders from other nations, but secondary students in grades 8 and 12 performed significantly lower than their grade-level peers from other countries (TIMSS, 1995). The combined impact of *A Nation at Risk* and the *TIMSS Report* was viewed as substantial and convincing evidence for changes in public education.

To address the important issue of student achievement, President George Bush and governors from across the country convened a summit in 1989 to identify a common set of educational standards. In 1991, the summit issued the *National Education Goals Report*, which identified six national goals and recommended that each state be required to conduct a systematic evaluation of educational progress and student achievement.

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Further, the summit concluded that the use of statewide assessments would result in continuous improvement and accountability.

The six goals identified by the summit were later increased to eight by Congress when it enacted the *Goals 2000: Education America Act in 1993*. Under Goals 2000, states that developed plans to achieve the acts' goals would be eligible to receive federal financial support (Turnbull, Turnbull, Shank, Smith, & Leal, 2002). The Senate Committee responsible for this law clarified its impact on students with disabilities. Specifically, the lawmakers stated that Goals 2000 should serve as the vehicle for making the promises of IDEA '97 a reality for students with disabilities and that they should participate in all aspects of educational reform (Turnbull et al.). To this end, Goals 2000 required states to develop standards and assessments for all students, including those with disabilities (Albrecht & Joles, 2003). The work of the summit and Goals 2000 laid the groundwork for the educational reform agenda and launched an era of standards, assessment, and accountability that was later codified in federal legislation through IDEA '97 and NCLB.

History of Exclusion from Education for Students with Disabilities

Prior to questions and reports about the effectiveness of public education, a more basic concern existed for students with disabilities, which was simply access to education itself. Historically, public education in the United States had been exclusionary in nature, only serving select groups of children. By using exclusion, schools served as a screening tool to support existing societal structures (Peckham, 1995). As a group, children with disabilities were intentionally marginalized by either being educated inappropriately or

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systematically excluded altogether. Prior to the 1960s, many children with disabilities were placed in private residential facilities or state institutions. Although the quality of care varied in these facilities, many were plagued with overcrowding, inadequate staffing, low safety standards, and few, if any educational programs (Murdick, Gartin, & Crabtree, 2002).

The substandard quality of life experienced by institutionalized persons with disabilities reflected the prevailing value held by society towards them. For the most part, the general public regarded persons with disabilities, particularly cognitive disabilities, as menaces to society and burdens to families (Kanner, 1964). Smith and Kozleski (2005) use the term "handicapism" to describe the prejudicial attitudes towards persons with disabilities. According to Smith and Kozleski (2005) handicapism extends beyond personal ignorance and prejudice, but is entrenched within every level and institution in society. Although societal perspectives did eventually shift towards greater tolerance for persons with disabilities, as an institution, public education was slow to change. Exclusionary practices in education did not begin to unravel until judicial and legislative mandates required it.

A landmark Supreme Court decision in 1954, Brown v. Board of Education, had an unprecedented impact on the prevailing social and educational practices regarding children marginalized by public education. The Brown case, a consolidation of lawsuits from Kansas, Virginia, South Carolina, and Delaware, alleged that African-American students educated in segregated schools were being denied their Constitutional rights under the 14th Amendment. Additionally, the case exposed the inequities of resources in

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terms of teachers, materials, and facilities (Hilliard, 2004). Ruling in favor of the plaintiffs, the Court held that separate facilities did indeed diminish educational opportunities and demanded that segregation end with all deliberate speed. In the majority opinion (Brown v. The Board of Education, 1954 as cited in Murdick et al.,(2002) the Court stated, "In this day it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education" (p.10).

Although the Brown case addressed African-American students, the decision was used later to obtain similar educational entitlements for students with disabilities. In 1975, Congress enacted the *Education for All Handicapped Children Act* after congressional findings revealed that over four million children with disabilities were receiving an inappropriate education and approximately one million others were totally excluded from public schools (Murdick et al., 2002). The widespread exclusion of students with disabilities from public schools prompted Congress to enact federal legislation guaranteeing access to public education for all students with disabilities. The first law to address this issue was the *Education of the Handicapped Act of 1970.* The law, amended to the *Education for All Handicapped Children Act of 1975 (EAHCA),* established a partnership between the federal government and the states to provide a free and appropriate public education for all children with disabilities.

The *Education for All Handicapped Children Act,* renamed the *Individuals with Disabilities Education Act (IDEA),* extended public education to all children with disabilities through the provision of special education and related services designed to address each child's unique needs. Special education and related services were made

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available to students between the ages of 3 and 22 identified with mental retardation, hearing impairments, language impairments, visual impairments, serious emotional disturbance, orthopedic impairments, other health impairments, learning disabilities and multiple disabilities. Subsequent reauthorizations expanded the identified disabilities to include developmental delays, autism, and traumatic brain injury.

Although the Education for All Handicapped Children Act provided for a variety of service delivery options, special education services were provided to students with disabilities in separate classrooms and in some cases separate schools (Artiles, 2003). In addition to separate placement options, another common instructional arrangement included pullout programs in which students with disabilities were pulled out of general education classrooms in order to receive services provided by special education personnel. Burello, Lashley, and Beatty (2001) suggested that one of the results of special education has been "the separation of students into special education services configurations" (p. 30). The separation of students with disabilities has been largely based on the assumption that students with disabilities have extensive needs that make it necessary to separate them into special classes where they can be provided specially designed programs delivered by trained specialists.

The most recent report to Congress on the implementation of IDEA (U.S. DOE, 2005) confirmed the continued use of separate instructional settings for students with disabilities in public schools. The report indicated that students with disabilities across the nation are separated to a significant extent from their non-disabled peers. Although 96% of students with disabilities are served in regular school buildings, less that half

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(46.6 %) spend most of their day in general education classrooms. More specifically, only 28% of students ages 6 to12 spend 100% of their school day in general education classrooms and only 28.2% of students ages 13 to17 are in general education classes 100% of the school day.

Research evidence suggested that when students with disabilities are served in separate arrangements, students experience lower academic expectations and disjointed curriculum, which focuses on rote or irrelevant materials (Rea, McLaughlin, & Walther Thomas, 2002). The extensive use of separate educational delivery systems has resulted in stark differences in the educational experiences of students with disabilities.

More recently, Congressional findings included in the introduction to the 2004 reauthorization of IDEA '97 drew similar conclusions. The findings stated that although the *Education for All Handicapped Children Act* has been successful in ensuring access to public education and in improving education results, the "implementation of the title had been impeded by low expectations, and an insufficient focus on applying replicable research on proven methods of teaching and learning for students with disabilities" (IDEIA 2004, p.3). The finding also stated that over three decades of research and educational experience have shown that the education of students with disabilities can be made more effective by high expectations, strengthening parental opportunities for participation, coordination of federal, state, and local improvement efforts to ensure that special education is a service and not a place were students are sent, providing special education services, aids, and supports in the regular classroom, and supporting high

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quality professional development for school personnel who work with students with disabilities.

History of Exclusion of Students with Disabilities from Accountability

After gains in the struggle for some degree of educational access, students with disabilities faced similar difficulties gaining their rightful place in the accountability movement. The 1994 Amendments to the Elementary Education and Secondary Act (ESEA) mandated the inclusion of students with disabilities into state assessment systems. ESEA required all students, including those with disabilities, to be assessed by state education agencies in English and mathematics. Participation in other content area assessments such as science and history were also required if the state tested students without disabilities in these areas. Despite the provisions of this act, research conducted by the National Center for Educational Outcomes (NCEO) revealed that students with disabilities were routinely exempted from assessment and accountability systems in most states (Thurlow & Krentz, 2001). In many instances, students with disabilities either did not participate in state assessment programs or their scores were not reported (Elliot, Erickson, Thurlow, & Shriner, 2000). A review of states conducted by NCEO in 2001 indicated that only seven states (Illinois, Kentucky, Missouri, New Mexico, New York, Louisiana and Alaska) included students with disabilities in their accountability systems (Thurlow & Krentz, 2001).

The exclusion of students with disabilities from assessments was initially documented in New York public schools when Allington and McGill-Frazen found that students with disabilities were left out of the state-testing program by being enrolled in

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non-tested grades. In the early 90's, evidence of the exclusion of students with disabilities was also noted at the national level in the National Assessment of Education Progress (NAEP), which is considered by many to be the nation's report card for education. In discussing the NAEP report, Turner, Baldwin, Kleinert, and Farmer-Kearns (2000) found that as many as 40 – 50% of students with disabilities did not participate in state testing programs.

According to Roeber and Warlick (2001), the rationales for the exclusion of students with disabilities were based on the assumptions that the information from assessments would not generate helpful information or that the use of testing accommodations would give students with disabilities an unfair advantage over other students. Regardless of the reasons, the exclusion of students with disabilities resulted in incomplete data on which to base improvement and reform activities. Accordingly, the exclusion of students with disabilities raised serious concerns regarding the accuracy of assessment results and the reliability of accountability systems (Elliot, Erickson, Thurlow, & Shriner, 2000).

Many scholars believed that the omission of students with disabilities from assessment and accountability systems has resulted in omission from important improvement activities (Elliot, Erickson, Thurlow, & Shriner, 2000; Albrecht & Joles, 2003). Thurlow and Johnson (2000) found that excluded students suffered from low expectations, lessened access to the general curriculum and limited benefit from standards-based reform. Similarly, Ysseldyke and Olsen (1999) stated, "it is generally held that if students with disabilities are out of mind in the assessment and accountability

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system they will be out of mind for policy decisions and the development of educational

structures and programs."

The 1997 amendments to the Individuals with Disabilities Education Act, (IDEA

'97) eliminated exclusionary assessment practices at state and division levels and

provided the strongest mandate for the participation of students with disabilities in reform

efforts. Specifically, IDEA '97 paved the way for students with disabilities, even those

with the most severe impairments, to be included in state assessment and accountability

systems by mandating access to the general curriculum, the development of alternate

assessments and the public reporting of results in an aggregated and disaggregated

fashion. In a memorandum to state directors of Special Education, the former director of

the Office of Special Education Programs, Ken Warlick, stressed the importance of

participation in assessments when he wrote, "participation in assessments go hand in

hand with access to the general curriculum" (Heumman & Warlick, 2000).

Delivery of Special Education through Inclusive Systems

Definition of inclusion. The need to improve the performance of students with disabilities

on general education curriculum has resulted in a trend towards more inclusive classrooms

(National Center on Accessing to the General Curriculum [NCAGC], 2002). A review of

literature has shown several definitions for the term "inclusion." Bateman and Bateman (2002)

described inclusion as students with disabilities being meaningful participants in general

education classrooms. Similarly, Pearpoint, Forest, and Snow (1992) defined inclusive education

as "children being educated in a heterogeneous, age-appropriate classroom, school or community

environment which maximizes the social development of everyone" (p. 6). The NCAGC (2002)

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defines inclusion as students with disabilities having membership in general education classrooms with age-appropriate peers where they have individualized and relevant learning objectives, and are provided with the instructional support to access the curriculum of the classroom. Although a variety of definitions have been used in the literature, it should be noted that each definition of inclusion suggested a common theme in which students enrolled in special education programs are served in the general education classroom for all or part of the school day (Pearpoint, Forest, & Snow, 1992). For the purpose of this study, inclusion was defined as programs that exhibit positive features in organizational climate and culture, professional practice, and accountability to the extent that students with disabilities are instructed in the general education curriculum in general education classrooms along with their general education peers.

History of inclusion. Throughout the history of public education in America, issues of whom to include and exclude from school have been ongoing (Stainback & Stainback, 1996). Students who were poor, from minority groups or who were disabled have faced struggles to gain access to public schools. Gaining access to education for students with disabilities has required court and legislative actions at the state and federal levels.

The passage of the *Education of All Handicapped Children Act (EAHCA)* in 1975 provided a federally protected right to a free and appropriate public education for all students with disabilities despite the severity of the disability. In addition to providing educational services, the Act addressed the delivery of special education services to students with disabilities through the principle of the least restrictive environment.

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The principle of the least restrictive environment required students with disabilities to be educated with students without disabilities to the maximum extent possible. Although the clear expectation of the law was that students with disabilities would be educated in integrated settings, this principle also allowed a continuum of services ranging from inclusion in general education classrooms to isolation in separate facilities. As the law was implemented across the country, students with disabilities were educated for the most part in separate classrooms outside of general education (Stainback & Stainback, 1996).

Although well intended, special education evolved into a parallel and highly differentiated system with loose ties to general education. The dual system resulted in disturbing differences between the education afforded to students with disabilities and the education available to students without disabilities. The need to challenge and change the inequities between the educational systems for general education students and the system for students with disabilities has been much of the motivation behind the inclusion movement (Malarz, 1996).

One of the initial trends preceding the inclusion movement was mainstreaming. Beirne-Smith, Ittenbach and Patton (2002) described mainstreaming as fitting students with disabilities into general education settings to the extent appropriate to their needs, which was frequently part-time at best. Likewise Turnbull et al., (2002) suggested that mainstreaming for the most part usually resulted in participation in nonacademic classes such as art, music and physical education.

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Another forerunner of inclusion was the Regular Education Initiative (REI), which initiated a movement away from mainstreaming to the delivery of educational services in general education settings (Hall, 2003). This reform advocated a merger and partnership between special education and general education to identify ways to serve students with disabilities in general education settings (Karagiannis, Stainback, & Stainback, 1996). REI criticized special education programs for the use of separate placements, not promoting partnerships between educators and parents and failing to provide supports and services before students experienced failure (Turnbull et al., 2002). Unfortunately, this reform met with little success and drew substantial criticism from the special education and general education ranks alike (Sailor & Roger, 2005).

After the failure of REI, persons advocating for its passage, redirected their focus to a new national agenda for inclusion. At this point, the inclusion movement focused primarily on eliminating special schools and separate classrooms, and educating students with significant disabilities in general education classrooms with supports. The goal of inclusion at this time was to help students with significant disabilities develop social relationships and prepare them for adult life (Turnbull et al., 2002). Although many of the early advocates of the inclusive movement were leaders in the area of severe and multiple disabilities, they also advocated for the inclusion of all students with disabilities.

As inclusion began to take shape from a philosophical perspective, Sailor (1991) suggested that three key components emerge. These components required students with disabilities to be educated in their home schools, which were defined as the schools they would attend it they did not have disabilities, placements in age and grade appropriate

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general education classrooms and the provision of special education supports and services in general education settings.

Within the last decade, the philosophy and practice of inclusion has developed an expanded perspective that not only impacts the general education classroom but the culture, climate and organizational structure of the entire school. From the school-wide vantage point, the practice of inclusion is predicated by the collaborative work of general and special educators to meet the learning needs of all students, including those with disabilities.

Lipksy (2003) suggested that school-wide approaches to inclusion address both the philosophy and practices necessary for the educational success of all students. Successful school-wide approaches depend on restructuring the school to promote flexible learning environments and universal instructional practices. Such restructuring requires all staff in the building to take responsibility for meeting the needs of all students, including those with disabilities. The commitment to the learning needs of all students will likely spur the use of a variety of teaching models ranging from co-teaching with groups of students to one-to-one tutoring with individual students. Further school-wide inclusive approaches require a shared pedagogy in which research-based special education strategies are used across the board. According to Lombardi and Ludlow (1997), many of the fundamental tenets of special education theory and practice could be applied to schools in such a way that all students benefit. The use of school-wide inclusive programs has been called second-generation inclusion (Turnbull et al., 2002). These inclusive systems may indeed facilitate the creation of schools that combine all

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their resources and supports to serve diverse students in integrated arrangements (Sailor & Roger, 2005).

Essential Features of Inclusive Systems

As the concept of inclusion has moved from an additive practice or the addition of resources and supports to the general education classroom, to a more generative one that involves the entire school program, it has become clear that inclusion is more than the physical placement of students with disabilities. Inclusion represents a combination of the principle of the least restrictive environment and the requirement of a free and appropriate public education (Lipksy, 1994). The implementation framework for an inclusive system consequently must go beyond the classroom focus to also address the organizational, professional practices, and accountability issues of the entire school. Table 1 and Table 2 provide a framework based on the three broad categories of Organizational Climate and Culture, Professional Practice, and Accountability. Table 1 lists the essential features of inclusion cited in empirical studies and shows the level of agreement that exist in the literature. Likewise, Table 2 shows the same information as reported in descriptive research. Analyses of the literature produced from empirical studies and from descriptive research suggested that scholars agreed that inclusive programs must have elements of best practice at the organizational and classroom levels, as well as an ongoing means of evaluation and accountability. Almost all authors agreed that school culture and leadership are critical keys at the organizational level and student supports, professional development, and planning time are crucial at the professional practice level.

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Table 1

Essential Features of Inclusion Found in Empirical Research

Essential Features	Lipsky	Scruggs & Mastroperi	Idol & Griffith
ORGANIZATIONAL CLIMATE & CULTURE			
Collaborative Culture	X		X
Leadership	X		X
Coherent Vision			X
Comprehensive Planning			
High Expectations			
Parental/Family Involvement	X		X
Flexibility			
Funding/Resources	X	X	
Positive interactions between staff & students with and without disabilities			
Supportive Policies			
PROFESSIONAL PRACTICE			
Student Supports	X	X	X
Professional Development	X	X	
Research-Based or Effective Strategies			
Planning Time	X	X	X
Curriculum adaptations			X
Transformed roles and responsibilities			
ACCOUNTABILITY			
Evaluation			
Sustained Implementation			
Refocused or Alternative Assessment	X		

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Table 2 *Essential Features of Inclusion Based on Descriptive Research*

Essential Features	Roach	Schaffner & Buswell	Walther Thomas, Korinek, McLaughlin & Williams	Voltz, Brazil & Ford	Halvorsen & Neary	Snell & Janney	Working Forum on Inclusive Schools
ORGANIZATIONAL CLIMATE & CULTURE							
Collaborative Culture		X	X	X		X	X
Leadership		X	X		X	X	X
Coherent Vision		X	X			X	X
Comprehensive Planning	X		X				
High Expectations							X
Parental/Family Involvement							X
Flexibility	X	X					X
Funding/Resources	X		X				
Positive interactions between staff & students with and without disabilities				X		X	
Supportive Policies					X		
PROFESSIONAL PRACTICE							
Student Supports	X	X		X	X		X
Professional Development	X	X	X	X	X	X	X
Research-Based or Effective Strategies	X	X		X	X	X	X
Planning Time		X			X		
Curriculum Adaptations	X			X	X	X	X
Transformed roles and responsibilities				X			X
ACCOUNTABILITY							
Evaluation		X	X				
Sustained Implementation		X	X				
Refocused or Alternative Assessment							X

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Empirical researchers, including Lipsky and Gartner (1995), Scruggs and Mastroperi (1996), and Idol and Griffin (1998), concurred that student support and planning time are essential features of inclusion programs. In 1994, the National Center on Educational Restructuring and Inclusion (NCERI), under the direction of Dorothy Lipsky, conducted a nationwide study on inclusive programs. In addition to identifying schools in which inclusion was taking place, the study also identified six factors necessary for inclusive programs to succeed. These six factors included visionary leadership, collaboration, refocused use of assessment, supports for staff and students, adequate and targeted funding, and effective family involvement (Lipsky, 1994). The study defined each factor as follows:

1. Visionary leadership – Leadership is shared leadership, which includes school administrators and other stakeholders such as teachers, families, and school board members. According to the study's findings, all leadership partners must believe and articulate the vision that all students can learn, that schools and staff have the capacity to change, and that all students can benefit from inclusion.

2. Collaboration – Collaboration is defined as teachers working together to plan, problem-solve, develop materials, and document student progress. Collaboration is a multidisciplinary approach to improved educational delivery within the general education setting. It may include building planning teams, and the development of planning times for teaching teams and an overall shared responsibility among the faculty and staff for student learning.

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3. Refocused use of assessment – The study defined this feature as the use of assessments as a tool to better understand students and their needs, rather than a tool to compare schools.

4. Supports for staff and students – Systematic staff development and flexible planning time were the two critical components of supports to staff. Supports to students included a wide variety of supplementary aids and services such as the assistance of paraprofessionals and related services personnel, peer support, and assistive technology.

5. Funding – This feature discouraged the use of funding formulas that promote separate programs and labels and encouraged the use of combined funding to support the needs of all students.

6. Effective family involvement – The study identified the participation of parents and other family members in the school via support services or programs to support them as co-learners as critical to the success of inclusive programs.

Many of the six features identified in the National Center for Restructuring and Inclusive Education study were also found in a comprehensive review of inclusion literature conducted by Scruggs and Mastropieri (1996). This study analyzed 28 inclusion studies, which spanned the timeframe from 1958 to 1995. Implications of the analysis supported the critical nature of teacher planning time, systematic staff development, student supports, and resources for successful inclusion. The report also cited the need for reduced class size and consideration of the severity of the student's disabilities when implementing inclusive arrangements.

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A few years following the work of Scruggs and Matropeieri, Idol and Griffith (1998) conducted a study of four schools using inclusive practices in Austin, Texas. They also identified essential features of inclusion that were very similar to earlier researchers. Idol and Griffith identified seven features of inclusion, which included leadership, goal vision, collaboration between faculty and administration, planning, proper adaptations, peer support, and parental involvement.

In addition to empirical research, which addressed the essential features of inclusion, descriptive research of noted scholars also corroborated many of the essential features of inclusions that have been discussed. Table 2 summarizes the descriptive research on the essential features of inclusion. In 1995, Virginia Roach, the Deputy Executive Director of the National Association of State Boards of Education and the principal investigator for the Center for Policy Research on the Impact of General and Special Education Reform, identified a number of factors that contributed to successful inclusion. Roach (1995) cited division level planning that creates a dialogue among stakeholders, the allocation (or reallocation) of funds, professional development and ongoing technical assistance, the use of proven instructional strategies, curricular adaptations, and student supports as crucial components to the implementation of inclusive programs. Roach also noted that special education teachers indicated flexibility, or the ability to adapt to change, as one of the most important aspects of successful inclusive systems.

During the same time frame, Schaffner and Buswell (1996) identified inclusive elements closely related to those identified by Roach. Schaffner and Buswell cited ten

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critical elements that contribute to the success of inclusive schools. According to

Schaffner and Buswell, the ten critical features of inclusion were: a common philosophy

and strategic plan, strong leadership, positive school culture, support networks for

teachers and students, accountability processes, ongoing professional development and

technical assistance, flexibility, use of effective instructional strategies, appreciation of

successes and challenges, and knowledge of the change process. Once again the elements

identified by these authors were similar to those previously reported by other scholars.

Walther-Thomas, Korinek, McLaughlin, and Williams (2000) described seven

essential features of inclusion, which included collaborative culture, shared leadership,

coherent vision, comprehensive planning, adequate resources, sustained implementation

and continuous evaluation and improvement. These authors were among the first to

suggest the aspects of sustained implementation and continuous evaluation and

improvement as critical features of inclusive programs. Sustained implementation or

support for a new innovation over time is essential to successful inclusion. Walther-

Thomas et. al noted than any innovation in the magnitude of inclusion represented a

complex change that will require steady work over time before it becomes a part of the

system. They suggested that one aspect of sustained support is comprehensive

professional development that requires everyone in the school to be knowledgeable about

the change process, school improvement, collaborative implementation of curriculum,

and the array of options for staff development.

The work of Voltz, Brazil, and Ford (2001) delineated several similar critical

features of inclusion. These authors emphasized the perspective that inclusion has more

to do with the response to difference than to physical placement. They suggested that inclusion must be framed within the meaningful and active participation of students with disabilities in general education settings. This framework is largely shaped by the shared ownership of all students among faculty members. By sharing the responsibility for all learners, a collaborative culture is required so that each student reaches his or her maximum potential. In addition to a collaborative culture, Voltz, Brazil, and Ford also cited the importance of positive interactions among staff and students in which diversity is respected and valued. Additionally, these authors suggested that the use of student supports such as specialized technology, adaptive equipment, and paraprofessional-related services personnel are germane to inclusive efforts. Other critical features of inclusion included the use of instructional strategies such as cooperative learning, peer tutoring, curriculum adaptations in which the most critical information is identified, and ongoing professional development with multiple learning options.

Similarly, Halvorsen and Neary (2001) identified 15 quality indicators of inclusive schools. These authors made a clear distinction between inclusion and mainstreaming by including indicators that require students with disabilities to be members of chronologically age-appropriate general education classrooms and to move with their peers from grade to grade. They also suggested that special classes or separate placements are used only for enrichment activities that are available to all students and that inclusive activities are not based on the student's disability or the severity of the disability. Regarding the delivery of services, Halvorsen and Neary cited quality indicators regarding the ratio of staff to students in inclusive settings, the inclusion of

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students with disabilities in total class counts, the use of certified personnel, and support for inclusion demonstrated throughout the school division including members of the Board of Education and the superintendent. According to Halvorsen and Neary (2001), additional indicators should be evident in regular planning and curriculum development to include the collaboration of general and special educators, planning meetings, and the use of supplemental instructional services such as adapted physical education and mobility training. Other features cited by Halvorsen and Neary included the use of research-based instructional strategies and ongoing professional development.

A recent work by Snell and Janney (2005) cited six essential elements for successful inclusive programs, which include an inclusive program model, inclusive school culture, collaborative teaming and problem-solving, use of effective curricular, and instructional practices that accommodate diverse learners, strategies for making individual adaptations to accommodate the needs of specific students, and the facilitation of positive peer relationships. Snell and Janney also reported the need for professional development in collaboration and instructional delivery to diverse learners.

The findings of researchers and the work of scholars agreed with the critical elements of inclusion identified by a number of national organizations across the country. In 1994, national associations including The American Association of School Administrators, The American Federation of Teachers, The Council of Exceptional Children, The Council of Great City Schools, The National Association of Elementary School Principals, The National Association of Secondary Principals, The National Association of State Directors of Special Education, The National Education Association

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and the National School Board Association identified twelve schools to participate in the Working Forum on Inclusive Schools. The purpose of the forum was to create a venue to extrapolate and discuss experiences in the successful inclusion of students with disabilities in general education. While recognizing that all schools are different, twelve significant features appeared to characterize inclusive schools. The twelve essential elements of successful inclusive practice included: a sense of community or a philosophy and vision that values and respects all learners, leadership from the building administrator, high expectations for educational outcomes, collaboration and cooperation, transformed staff roles and responsibilities, options for services within the school setting, parental partnerships, flexible learning environments, research-based strategies, alternative assessments, access to facilities and curriculum, and ongoing professional development.

An analysis of the literature on the essential features of inclusion across the last fours decade shows considerable consistency in the field (Lipsky & Gartner, 1995; Scruggs & Mastroperi, 1996; Idol & Griffin, 1998, Walther-Thomas, Korinek, McLaughlin, & Williams, 2000; Voltz, Brazil, & Ford, 2001; Halvorsen & Neary, 2001); Snell & Janney, 2005). Many of these features can be categorized into three broad groups: organizational climate and culture, professional practices, and evaluation/accountability. Organizational climate and culture refers to those features that address the belief system of the school faculty and stakeholders and their capacity to work together to create a positive learning environment for all students. Features related to organization and climate start with the leadership of the school and the vision that is

crafted and articulated. The organization climate and culture translates into all stakeholders uniting to plan for program implementation, to secure funding and resources, and to promote supportive policies. Secondly, a number of essential features discussed in the literature can be categorized under the theme of professional practice. Professional practices refer to activities that the teaching and support faculty engage in on a regular basis that benefit students directly. Essential features under the category of professional practice include the use of research-based strategies, student supports such as technology, paraprofessionals or peer tutors. Other features under this category refer to supports available to the faculty and staff that will facilitate their new and different roles and responsibilities. These features include planning time and ongoing professional development. The last broad category is accountability. This category refers to those features that monitor and document student progress and achievement such as refocused and alternative assessments. The accountability category also extends beyond the evaluation of students to the evaluation of the inclusive system being implemented.

Inclusive Practices and Models

According to Anctil, Mooney, and Phelps (2002), inclusion generally required that the educational environment meet the needs of the student rather than having the students adjust to the existing school or classroom. In general, inclusive classrooms embrace the belief that all students can learn and that services should be provided to students based on need. The classroom teacher, or teachers if a team approach is utilized, uses a variety of instructional methods so that all students are actively engaged in classroom activities. The teacher is also provided support by the special education

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professionals and collaborates with them to modify curriculum and make any other accommodations required so that the child with disabilities can benefit socially and emotionally, according to his/her individualized goals. In inclusive classrooms, concepts such as teacher collaboration, enhanced instructional strategies, curriculum modifications and student supports are incorporated into the general education setting.

To provide instruction to students with disabilities in general education classrooms, a number of inclusive models have emerged in which special educators and general educators collaborate and otherwise work together to address the learning needs of all students (Lombardi & Ludlow, 1997). More widely used models include co-teaching, collaborative consultation, grade-level team membership, participation on problem-solving teams and direct instruction to individual students (McGregor, 2001). It is noted however, that the most commonly used instructional arrangements are membership on grade level teams and co-teaching (McGregor). Schools using assignments to grade level teams use a non-categorical approach in which the special educator collaborates with general education teachers across a grade level. For example, a teacher of students with learning disabilities may work with three kindergarten teachers at an elementary school by working in each classroom a specified amount of time each day. In co-teaching arrangements, a general education teacher and a special education teacher may be assigned full-time to the same classroom with the expectation that they will work together to address the unique needs of all students. Regardless of the specific model employed, Chow, Blais, and Hemingway (1999) suggested that the combining of special education and general education expertise in inclusive classrooms can be the best of both

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worlds for all students. In inclusive classrooms, general education students and students with disabilities receive the benefits of the general education teacher who is likely well versed in the content and the special education teacher who is skilled in the use of accommodations, modifications and strategies to enhance learning.

It is a given that most general education teachers and special education teachers routinely work alone in their respective roles and in their classrooms (McGregor, 2001). Inclusive classrooms require both groups of teachers to step out of their traditional roles and engage in collaborative efforts to differentiate instruction so that the needs of all learners are addressed. Additionally, they both need to understand the key concepts and skills articulated in the curriculum and develop a mutual expectation about the content that is important for students with disabilities to learn. General education teachers may provide the knowledge in the content area while special educators may differentiate the instruction by presenting it in a different manner, using alternative materials, technologies, or other adaptations.

Evidence-based Outcomes of Educating Students with Disabilities in Inclusive Systems

Empirical research is giving rise to a growing body of evidence, which suggests that students with disabilities are positively impacted when they are educated in inclusive programs (Artiles, 2003; Rea, McLaughlin & Walther-Thomas, 2002; Strieker & Logan, 2001). These outcomes have a direct relationship to the accountability targets mandated by NCLB. Wallace, Anderson, Bartholomay, and Hupp (2002) have concluded that students with disabilities will perform better and are expected to achieve at higher standards if they are educated in inclusive settings. The studies described and discussed in this section specifically show that students with

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disabilities show improved performance in academics, assessment, social skills, communication skills and academic engagement when they are educated in inclusive arrangements.

Assessment Performance. Project WINS, an extensive project in eighteen elementary and middle schools in Georgia, was designed to build capacity around educating diverse students, including students with disabilities, in general education classrooms by providing teachers with knowledge and skills in research-based inclusive practices (Strieker & Logan, 2001). The project assigned special education teachers to grade level teams to provide support to students with disabilities in general education classrooms. The outcomes of the project revealed that when students with disabilities are served in inclusive classrooms with research-based supports, statistically significant gains were made in their standardized test scores.

Academic Performance. A recent study by Rea, McLaughlin, and Walther-Thomas (2002) investigated performance outcomes of middle school students with learning disabilities served in pullout programs versus those served in inclusive settings. One of the performance measures included academic achievement as measured by final course grades, standard scores on the Iowa Test of Basic Skills, and scores on the Literacy Passport Test. Results indicated that students served in inclusive classrooms earned higher grades in all content areas. Further, students in inclusive settings scored better on the Iowa Test of Basic Skills and comparable performance between the two groups was found on the Literacy Passport Test.

Hall (2003) investigated the correlation between the time in general education classrooms and the achievement of elementary and middle school students with learning disabilities. This study, which was conducted over a three-year period, concluded that students with learning disabilities who spent more time inclusive general education classroom had higher achievement

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scores in reading and mathematics as determined by the Woodcock-Johnson Tests of

Achievement- Revised and the Kaufamn Test of Educational Achievement.

Academic Engagement. A similar study of high school students with disabilities served in

inclusive classrooms was conducted by Wallace et al., (2002). Almost 200 observations were

made in inclusive high school settings. Approximately half of the observations were targeted for

students with disabilities and the other half were targeted for students without disabilities.

Results of this study revealed that students with disabilities and students without disabilities both

demonstrated high levels of academic engagement and low levels of inappropriate behaviors in

inclusive settings. Research evidence suggested a strong relationship between academic

engagement and student achievement.

Just as these three studies support positive student outcomes with inclusion, a larger

review of the literature conducted by the US. Department of Education on the inclusion of

students with disabilities served in general education classes indicated improved social and

communication skills, success with cooperative learning and peer tutoring and gains in some

academic areas (Artiles, 2003).

Accountability in Practice: Virginia

To comply with the national reform agenda, the Virginia Board of Education

launched an extensive program of education reform that was designed to address the

needs of all school-aged children in the state. A report from the Virginia Department of

Education, Virginia *K-12 Education Reforms* (1995), stated that the four major

components of the reform efforts included

1. Raising academic standards,

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2. Measuring student achievement and progress in the new, higher standards,

3. Ensuring the accountability of schools for student achievement, and

4. Communicating with parents, taxpayers, and the community at large.

Important to this education reform agenda was the development of state standards, which become known as the Standards of Learning (SOL). The Standards of Learning are rigorous academic standards that target specific learning goals at each grade level, kindergarten through grade 12, in the core subject areas: English, mathematics, science, and history/social science. According to the *Virginia K-12 Education Reform*, (1995), the Board of Education adopted the Standards of Learning in June 1995, following extensive public review by educators, parents, special interest groups, and the business community.

Like other states engaged in standards driven reform, Virginia developed assessments in the core subject areas to align with the newly adopted standards and launched an ambitious testing program (Giacobbe, Livers, Thayer-Smith, & Walther-Thomas, 2001). Students with disabilities were included from the onset in the initial test development process by support provided to the Virginia Department of Education by the National Center for Educational Outcomes (NCEO), which assisted in the development of participation and accommodation guidelines (Cox, 2003). According to a Virginia Department of Education document, *Participation of Students with Disabilities in Virginia's State Assessment System* (2002), the assessments were designed to measure student achievement on the knowledge embedded in the standards in academic areas, including technology. These assessments, referred to as the SOL tests, were initially administered to students in elementary school in grades 3 and 5, in middle school at grade

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8, and in high school at the conclusion of selected courses. During the 2005-2006 school year, the administration of the SOL tests was expanded to include grades 4, 6, and 7 to comply with the annual testing requirements of NCLB. When Congress enacted IDEA '97, the Virginia Department of Education developed an alternate assessment program to include students with significant cognitive disabilities in the assessment and accountability system (Cox, 2003).

High stakes were attached to the Standards of Learning and the state assessments for students and schools when the *Regulations Establishing Standards for Accrediting Public Schools in Virginia* was adopted in 2000. Students were required (beginning with the graduating class of 2004) to earn verified credits by passing SOL tests in order to graduate with a standard or advance studies diploma. Similar high stakes were in place for schools through the accreditation process and associated warnings, sanctions, and rewards. As a result, the Standards of Learning and the Standards of Learning tests became the foundation of Virginia's accountability system and the framework for the state's reform efforts.

To address the requirements of NCLB, Virginia was required to move towards to goal of 100% proficiency in mathematic and reading by 2013 –14. Benchmarks called annual measurable objectives were determined by each state as they progressed towards 100% proficiency. For 2006-07, Virginia set annual measurable objectives of 67% for mathematics and 69% for reading. In order for Virginia schools to attain NCLB's adequate yearly progress (AYP) status, a school must have 67% of all students and 67% of students with disabilities and in other sub-groups pass SOL assessments in

mathematics. Likewise, 69% of all students and 69% of students with disabilities and in other sub-groups must pass SOL reading tests. In addition to reaching the annual measurable objectives, NCLB's AYP status also requires that 95% of the students in the school take the SOL assessments and that elementary schools meet certain attendance targets and high schools meet graduation targets.

Summary

Chapter II has discussed the impact of three important federal reports on the national accountability movement in public education. Although accountability from the legislative perspective included students with disabilities, in practice they were excluded from public schools and from many state and national assessments. The chapter also reviewed these exclusionary practices and the educational shifts that resulted from IDEA '97 and NCLB. Specifically, this chapter discussed the federal requirement to include students with disabilities in assessment and accountability systems and stringent academic performance targets established in the Adequate Yearly Progress (AYP) provision of NCLB for all students, including students with disabilities.

In addition to reviewing accountability from a national perspective, this chapter also discussed the history of the Virginia state testing program, the Standards of Learning assessments and the performance of students with disabilities in its accountability system under NCLB.

Historical facts and perspectives make it clear that although once excluded, students with disabilities are now included in public schools and educational reform. In order to meet the requirements of current federal laws, school leaders must put effective

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systems in place to meet academic performance targets. The growing literature base suggests that inclusion may be the system that will most effectively address this challenge. Even though inclusion appears promising the literature is clear that there are considerable differences even regarding its definition. Therefore, it would be fair to conclude that it would likely have different meanings at the practice level. To ensure a consistent operational definition, this chapter included a review of the critical features necessary for effective implementation. Scholars agreed that inclusive systems include critical features that impact that entire school such as climate, culture, and leadership. The school's organizational strengths create the context in which to build professional practice features such as planning time, student supports, and professional development that will have direct impact on students. Finally, the literature suggested that inclusive systems must also address accountability at the student level through alternative and refocused assessments and at the programmatic level through continuous evaluation.

The question posed in this study regarding the relationship between student achievement and inclusive practice requires a close examination of schools implementing inclusion as viewed through the lens of inclusion's essential features. This important information could provide school leaders with a roadmap to ensure that the achievement of students with disabilities will be commensurate with that of other learners.

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Chapter III

Methodology

According to Gall, Gall, and Borg (2003), educational research is conducted for four basic purposes: description, prediction, improvement, and explanation. The purpose of this study was to describe the relationship between inclusive education in Virginia schools and the attainment of No Child Left Behind AYP performance targets in mathematics and reading for students with disabilities. A quantitative study, which employed a descriptive research design, was conducted to examine this important phenomenon.

The education of students with disabilities in public schools has been an issue for decades. American schools have moved from the pure exclusion of students with disabilities, which is not allowing students with disabilities into school buildings, to functional exclusion, which is limiting or denying access to crucial instructional activities. Efforts to move away from exclusionary practices to those that provide genuine and meaningful inclusion of students with disabilities suggest that calls for social justice are not enough to bring about needed changes. It appears that schools need solid evidence before they will discard old practices. This study was designed to provide a significant piece of this evidence by examining the relationship between serving students with disabilities in school programs that exhibit the essential features of inclusive practice and achieving the same targets in reading and mathematics as students without disabilities. The significance of this research was in providing school leaders with critical information that may help to close the achievement gap between students with disabilities and

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students without disabilities. In the era of assessment and accountability, this fact alone may promote greater inclusive educational practice in Virginia for students with disabilities.

This chapter presents the specific research questions of this study, the methodology, including the sample, and selection procedures, as well as the data collection procedures and analysis. Ethical safeguards that were employed are also discussed.

Research Questions

> 1. To what extent are elementary schools in Virginia achieving
>
>   the AYP target in reading for students with disabilities?
>
> 2. To what extent are elementary schools in Virginia achieving the AYP
>
>   target in reading for students with disabilities?
>
> 3. To what degree are selected elementary schools practicing inclusion?
>
> 4. Is there a relationship between the achievement of the AYP target in
>
>   mathematics for students with disabilities and inclusive practice in
>
>   elementary schools?
>
> 5. Is there a relationship between the achievement of the AYP target
>
>   in reading for students with disabilities and inclusive practice in
>
>   elementary schools?

Research Design

A quantitative study, which employs a descriptive research design, was conducted to examine the relationship between accountability and inclusive systems for students

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with disabilities. The Virginia Department of Education maintains data sets of the AYP

status of all Virginia schools by school year. These data sets were used to randomly select

elementary schools that made AYP for students with disabilities in mathematics and

reading for the 2005 –2006 school year and the schools that did not. The principal in each

school was surveyed using the Marsh Inclusion Scale-Revised (Abbreviated Version)

regarding the essential elements of inclusion that are in place in their schools. Results

from the survey of the schools that made AYP were compared to the schools that did not

make AYP. School division AYP data were correlated with the use of inclusive features

data to determine if there is a relationship between the use of an inclusive system and

achieving AYP targets in mathematics and reading for students with disabilities.

Sample

Gall, Gall, and Borg (2003) suggested that a logical frame be used in the process of

defining a target population, an accessible population, and selecting a sample. The first step in this

process is to identify the target population, which they defined as all the members of a group to

which the results can be generalized. The second step was to discuss the sampling procedures

including details such as the type of sample, the size of the sample, and the geographic area of the

sample. The third step in this process was to identify the sampling frame or the list from which the

sample was derived. The fourth and final step was to determine the completion rate or the percent

of the sample that participated as required in the research procedures. Each of these four critical

steps is discussed below.

Step 1 – Target population. All public schools in Virginia are under the

accountability requirements of No Child Left Behind. Since this study focused on

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elementary schools, elementary school leaders who have knowledge of the delivery system used to educate students with disabilities served as the target population for this study. Approximately 700 elementary schools and their principals are included in this target population. The research question posed in this study required the target population to be categorized according to elementary schools that achieved AYP targets in mathematics and reading for students with disabilities and the elementary schools that did not. This study used the principals in these schools as the research respondents.

Step 2 – Sampling procedures. A random sample was drawn from the target population of Virginia public elementary schools. According to Gall, Gall, and Borg (2003), the sample size should be as large as possible to increase the likelihood that the sample will be representative of the target population; they often recommend one hundred participants for survey-based research. These writers suggested that a small sample that supplies in-depth knowledge may be better than a large one that yields superficial and surface level information. In order to balance these two perspectives and for this study to yield meaningful information for Virginia schools, a sample size of 150 was used.

To obtain the desired sample from the target population, a simple random sampling procedure was used. Elementary schools were divided into two groups: schools that made AYP in mathematics and reading for students with disabilities and schools that did not make AYP in these two content areas for students with disabilities. All elementary schools that made AYP were assigned a number based on their ordinal position on the VDOE list. A table of random numbers was used to select a total of 75

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elementary schools. The same process of assignment of a number based on ordinal position and the use of a table of random numbers was used with the group of elementary schools that did not met AYP to select 75 elementary schools.

Step 3 – Sampling frame. The sampling frame for this study was AYP data provided by the Division of Education Information Management at the Virginia Department of Education. The data set provided the aggregated pass rate of all students with disabilities on the state assessments in mathematics and reading. Schools that made AYP and schools that did not make AYP for students with disabilities in mathematics and reading were derived from this information.

Step 4 – Completion Rate. Once all the elementary schools are identified, the principal of each school was contacted and requested to complete a survey addressing inclusion in his or her building. In the event that a principal declined, they were requested to provide the name of someone else in the building that was knowledgeable about the delivery system used to serve students with disabilities. Gall, Gall and Borg (2003) reported that surveys mailed to education professionals usually have a higher response rate than that of the general population. A return rate of 50% was selected as the acceptable response rate for this study.

Procedures. Question 1 and 2 were addressed through the extant database of the pass rates of elementary schools on mathematics and reading state assessments. Reading pass rates were compared to the performance target of 69% to identify the schools that reached the AYP target in reading. Mathematics pass rates were compared to the performance target of 67% to determine schools that obtained the AYP target in mathematics.

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Question 3 was addressed through the use of a survey to facilitate a careful description of the relationship between mathematics and reading achievement for students with disabilities and education in inclusive systems. This survey research was conducted in three phases based on the information provided by Mertens and McLaughlin (2004) and Gall, Gall and Borg (2003). Phase 1 included obtaining required approvals and developing study documents. Phase 2 involved conducting the survey and related topics such as preparation of cover letters, distribution of the survey, and Phase 3 consisted of follow-up contacts with non-responders. Each of these phases is discussed in the following section.

- Phase 1 – Obtaining Approvals

The first activity in this phase was to obtain the approval of the Human Subjects Committee at the College of William and Mary. This activity was conducted by completing the human subject's application form describing the scope of activities in this effort, designing a cover letter and the informed consent form that was distributed to participants. Gall, Gall and Borg (2003) stressed the importance of carefully writing the cover letter. They suggested that it include information regarding the significance of the study and the importance of participant's responses, specific time frame for responses, method to return the survey, assurance of confidentiality, informed consent procedures, and plans to share the results of the study with participants. The application, cover letter, and the informed consent document were designed with this in mind and submitted for approval the Human Subject Committee. Sample of the cover letter and informed consent forms are included in Appendix A. Approval was obtained from the Human Subjects

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Committee on November 10, 2006. Activities did not start on this study until written approval from the Committee was secured.

- Phase 2 – Conducting the survey

Each principal selected from the random sample was sent a cover letter, which provided an overview of the study, informed consent forms, and a copy of the survey. A token of appreciation of a $2.00 bill was attached to each cover letter. Gall, Gall and Borg (2003) suggested that incentives such as rewards, small gifts or token usually increase the response rate. These authors suggested that incentives be described as a token of appreciation rather than payment for a participant's time. In addition to the cover letter, the informed consent form, the survey, and the two-dollar bill, each principal was sent a self-addressed stamped envelope for the return of the survey. Participants were asked to return the survey within ten days of receipt.

- Phase 3 - Follow-up

Participants who did not respond within two weeks of receipt of the survey were sent a reminder post-card. Participants who did not respond within three weeks were sent a new cover letter, informed consent documents, and another copy survey. If participants remained non-respondents after the third reminder they were eliminated from the sample.

Data Collection

Data were collected on each question from a variety of sources. For Question 1: *To what extent are elementary schools in Virginia achieving the AYP target in mathematics for students with disabilities?* and Question 2: *To what extent are elementary schools in Virginia achieving the AYP target in reading for students with disabilities?* AYP data

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obtained from the Virginia Department of Education was used to determine the number of schools that reached the required AYP performance target in mathematics (67% pass rate on state assessments) for students with disabilities and the required AYP performance target in reading (69% pass rate on state assessments). This report was available through an information request to the Division of Educational Information Management Services (2007).

The report included school names, school codes, and the percent of students with disabilities who received a proficient score or higher on the statewide assessments in mathematics and reading. This report was provided in an Excel file format.

Data for Question 3, *To what degree are selected elementary schools practicing inclusion?*, was obtained by surveying Virginia school principals from elementary schools that achieved AYP targets in mathematics and reading for students with disabilities and principals representing schools that did not meet the targets.

Data for Question 4, *Is there a relationship between the achievement of the AYP target in mathematics for students with disabilities and inclusive practice in elementary schools?*, was gathered by comparing the extent of inclusive practice based on survey results in schools that achieve AYP mathematics targets to the extent of inclusive practice in schools that did not achieve AYP targets in mathematics for students with disabilities.

Data for Question 4, *Is there a relationship between the achievement of the AYP target in reading for students with disabilities and inclusive practice in elementary schools?*, was gathered by comparing the extent of inclusive practice based on survey

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results in schools that achieve AYP reading targets to the extent of inclusive practice in schools that did not achieve AYP targets in reading for students with disabilities.

Instrumentation

According to Gall, Gall and Borg (2003) surveys or questionnaires are extensively used in educational research to gather data on phenomena that cannot be observed directly. Survey methodology describes and characterizes a situation that exists for the target population. Additionally, it provides a means of aggregating information and data so that differences in behaviors, attitudes, and perceptions can be illuminated. A survey method was selected for this study to provide an efficient means of gathering information to describe and characterize the extent that the essential features of inclusion are evident in schools that have reached AYP targets in mathematics and reading for students with disabilities in comparison to schools that have not reached AYP targets for students with disabilities in mathematics and reading.

The literature has identified features at the organization level of the school such as school culture, leadership, and vision, as well as professional practice features such as use of research-based strategies, professional development, student supports, and planning time. The Marsh Inclusion Scale-Revised (Abbreviated Version) was selected as the instrumentation for this study because of the parallels with the essential features identified in the literature. This scale was developed in 2000 by Elizabeth Marsh Vantre as the focus of a doctoral study at Temple University. According to Vantre (2000), the purpose of her work was to develop a "much needed, reliable, and valid scale to evaluate the degree to which programs adhere to best practice in implementing inclusion" (p. iv).

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The scale was based on the essential features of inclusion cited in the literature. Written permission to use the scale for the purpose of this study is available in Appendix B.

The Marsh Inclusion Scale-Revised (Abbreviated Version) is a 58-item likert scale that addresses items from six subcategories including: Leadership, Stakeholder Involvement, Resources and Support, Professional Practices, Curriculum and Classroom Adaptations, and Accountability. With the permission of the developer, the six subheadings were collapsed into three broad sub-categories to reflect the implementation framework for inclusive systems cited in empirical studies and descriptive research summarized in Tables 1 and 2. Leadership, Stakeholder Involvement, and Resources and Support were subsumed under the broad category of Organizational Climate and Culture because items revolved around concepts key to overall organizational effectiveness. Items under the Marsh sub-categories of Professional Practice and Curriculum Classroom Adaptations were combined into one sub-category called Professional Practice. All items under this sub-category are activities conducted by or engaged in by the teacher to enhance effective instructional planning and delivery. The final sub-category, Accountability remained unchanged and continued to reflect items identified under Accountability in the original Marsh scale.

A panel of 16 experts, knowledgeable and experienced in inclusion, determined construct validity for the Marsh Inclusion Scale-Revised. The panel's membership included school leaders, scholars, university faculty, educational consultants, and directors of inclusion projects and centers. Essential features on the Marsh Scale were determined by those features that received a mean rating of 3.5 to 4.0 and a consensus

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between 93% to 100% among panel members. Additional validity evidence was obtained for the Marsh Inclusion by its administration to nine teachers and/or staff members who were knowledgeable about inclusion and who had experience including students with disabilities in general education settings. These participants represented five inclusion programs located in New Jersey, Pennsylvania, Illinois, and Virginia.

Reliability of the scale was determined by conducting a test-retest trial. The scale was administered to 12 Temple University psychology students who responded twice with seven days of lapse time between the trials. Test-retest reliability was determined by finding the level of agreement between responses in the two administrations of the scale. Test-retest data yielded a Pearson Correlation of .94 (Vantre, 2000).

Gall, Gall, and Borg (2003) highly recommend pilot testing of instruments to provide the opportunity for the researcher to check respondents' understanding of the wording of the items, as well as to obtain valuable criticisms and suggestions for improvement. Prior to the start of this study the March Inclusion Scale-Revised (Abbreviated Version) was pilot tested by eight school leaders from one Virginia school division. Data from the pilot supported including additional questions in Section I (General Information and School Demographics) regarding the categories of students with disabilities in the school and the number and category of students with disabilities served in inclusive classrooms and the addition of a space to provide more information on the school's inclusive practices. These questions were added to Section I and a space for additional information was added at the end of the scale in Section II. The Marsh

Inclusion Scale-Revised (Abbreviated Version) with these changes is included in

Appendix C.

Data Analysis

After the data were collected for the five questions stated in this study, each was analyzed

as described below.

    Questions 1 and 2. A simple frequency count was conducted of the elementary

schools that made AYP for students with disabilities in mathematics and reading and the

elementary schools that did not. A table was included to show the number of elementary

schools that made AYP in mathematics and reading for students with disabilities and the

number of elementary schools that did not. The table also showed the number of

elementary schools that met both AYP performance targets and the number that failed to

meet both targets. Corresponding pass rates were also included in the table of data.

Additionally, correlations were run for questions to determine if a significant correlation

existed between levels of inclusion and achievement in both mathematics and reading.

    Question 3. After the surveys have been returned, a descriptive

statistic was used to determine the number of essential features of inclusion evidenced in

each school. The results were also analyzed to show a measure of central tendency, which

is defined by Gall, Gall and Borg (2003) as a number that describes the average of an

entire set. Additionally, an item analysis was conducted on each survey item to develop a

profile of schools that met the targets and schools that did not. Information collected from

the surveys was also analyzed using descriptive statistics such as mean, percentage,

standard deviation and frequency of the items under each sub-heading (organizational

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climate and culture, professional practice, and accountability). Data based on these three subheadings were used to further describe and discuss differences between elementary schools achieving AYP for students with disabilities and schools that did not achieve AYP for these students. Independent sample t-tests were used to determine if statistically significant differences existed between schools that meet AYP targets and their counterparts that did not. This analysis was used to provide information on the similarities and differences between the two groups of schools.

Questions 4 and *5.* A bivariate correlation coefficient was used to describe the strength of the relationship between the essential features of inclusion and achieving AYP targets in mathematics and reading for students with disabilities. The extent of inclusion in elementary schools that made AYP in mathematics for students with disabilities was compared with the extent of inclusion that exists in elementary schools that did not make AYP. The extent of inclusion in elementary schools that made AYP in reading for students with disabilities was compared with the extent of inclusion that exists in elementary schools that did not make AYP in reading.

Ethical Safeguards

Ethical considerations for the welfare of respondents were highly regarded and strictly adhered to in this study according to the requirements of the Human Subjects Committee at the College of William and Mary. Informed consent was obtained from each participant prior to his or her involvement in the study. To this end, respondents were provided with a written overview discussing the nature of the study, selection procedures, time commitments, expected benefits, and potential risks. Although there are

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no potential risks anticipated from this study, the respondents' names, schools, and school divisions remained confidential and were not be revealed at any time. Additionally, the researcher and/or supervising faculty member were available to respond to all questions and concerns. It should also be noted that participation was voluntary and at any time should a participant have elected to withdraw, he or she would have been allowed to do so without penalty. A copy of the research results will be available to all respondents.

Chapter IV

Analysis of Results

The current accountability agenda has challenged school leaders to find practices that will improve achievement in the areas of mathematics and reading for students with disabilities. Lagging pass rates that have traditionally characterized the assessment performance of this group of students has become synonymous with school failure according to NCLB mandates. Sadly, failure will likely prevail for schools serving students with disabilities if past practices persist (Bielinski & Ysseldyke, 2000).

Educational research will clearly be the catalyst for replacing unsuccessful practices with more promising ones for students with disabilities. NCLB requires the use of scientifically-based research to obtain valid insights about an educational practice or program and to determine the impact on intended outcomes (Mertens & McLaughlin, 2004). The results of this study were presented with this in mind.

The question about the relationship of inclusive practice in elementary schools to achievement in mathematics and reading was examined in this study to provide valuable research for school leaders who shoulder the responsibility for the performance of students with disabilities. In examining this important overarching issue, five research questions were posed:

1. To what extent are elementary schools in Virginia achieving the AYP target in mathematics for students with disabilities?

2. To what extent are elementary schools in Virginia achieving the AYP target in reading for students with disabilities?

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3. To what degree are selected elementary schools practicing inclusion?

4. Is there a relationship between the achievement of the AYP target in mathematics for students with disabilities and inclusive practice in elementary schools?

5. Is there a relationship between the achievement of the AYP target in reading for students with disabilities and inclusive practice in elementary schools?

Findings

To answer these questions, two groups of elementary schools were sampled: schools that reached the AYP targets for students with disabilities in mathematics and reading in 2005-2006, and schools that did not meet the targets for these students. Elementary principals from each group of schools were randomly selected and surveyed using the Marsh Inclusion Scale-Revised (Abbreviated Version), which is a tool used to determine the number of essential features of inclusion present in a school or program. Responses to the scale were analyzed using a descriptive research design.

The results of this examination are presented in this chapter. The chapter begins with a description of the sample and the subsequent sections present an analysis of the data for each research question.

Description of Sample

The term *elementary school* has been defined in this study as a public school serving students in kindergarten through grade 5. Of the over 700 schools in Virginia that met this criterion, elementary schools were divided into two groups based on the pass rate of students with disabilities on mathematics and reading state assessments administered

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in the 2005-2006 school year. It should be noted that AYP determinations are made a year after the test administration year, therefore a school's 2006-2007 AYP status is based on 2005-2006 assessment data. Schools that obtained both the mathematics and reading benchmarks of 67% and 69% respectively for students with disabilities represented one group of schools in this study. Conversely, the second group was composed of schools that did not reach the required AYP targets of 67% for mathematics and 69% for reading for students with disabilities.

The Marsh Inclusion Scale-Revised (Abbreviated Version) was mailed to 150 randomly selected elementary principals, 75 principals representing schools that met the mathematics and reading targets for students with disabilities and 75 principals representing elementary schools that did not achieve the required targets in mathematics and reading. In cases in which principals could not respond to the scale, they were requested to ask a knowledgeable member of the staff to complete the survey in their stead. A total of 68 usable surveys were returned with 51% (n = 35) from schools that met the AYP benchmarks and 49% (n = 33) from schools that did not meet the benchmarks.

Return Rate. Initially, a return rate of 50% was proposed for this study. Considerable efforts were made by the researcher to reach this return rate, which included sending second requests, reminder post cards, and telephone contacts to participants. After obtaining permission from dissertation committee members, this researcher moved forward with this study using a lower return rate than anticipated. Sixty-eight usable surveys were returned which represented a return rate of 45%. Returned surveys

represented over thirty surveys for schools that met AYP mathematics and reading targets and a similar number for schools that did not meet the targets. Although a higher return rate was sought, it should be noted that the use of 30 samples per group is consistent with the number of samples considered acceptable for correlation studies by Mertens and McLaughlin (2004).

General Information about Respondents and Schools. Section I of the Marsh Inclusion Scale-Revised (Abbreviated Version) contained six items regarding general information about the respondents and their schools. Table 3 provides a summary of the data collected for Items 1-6 on the Marsh Inclusion Scale.

Items 1 and 2 were used to collect information regarding the respondents' roles at the school during the current year (2006-2007) and the 2005-2006 school year. Items 3 through 6 were used to obtain general information regarding students with disabilities at the school related to (a) number of students with disabilities enrolled during the 2005-2006 school year, (b) the number of students with disabilities enrolled during the 2005-2006 school year by disability category and assignment to inclusive classes, (c) the estimated number of students with disabilities served in inclusive English/reading classrooms for the 2005-2006 school year, and (d) the estimated number of students with disabilities served in inclusive mathematics classes for the 2005-2006 school year.

Respondent Role during the 2006-2007 School Year. Respondents were asked to provide information about their roles at the school during the 2006-2007 school year. Respondents from schools that met the AYP pass rates for students with disabilities indicated that the majority 83% (n=29) served as principals. Other respondents identified

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Table 3

General Information about Respondents and Schools

Item Number	Item Topic	Response Selection within Topic	Schools that Met AYP Targets		Schools that did not Meet AYP Targets	
			Percent	Frequency	Percent	Frequency
1.	2006-07 Role	Principal	83%	29	82%	27
		Asst. Principal	6%	2	6%	2
		Other	11%	4	12%	4
2.	2005-06 Role	Principal	71%	25	67%	22
		Asst. Principal	17%	6	15%	5
		Other	11%	4	18%	6
3.	Number of Students with Disabilities			2102		2084
4.	Number of Students by Disability Category and Assignment to Inclusive Classrooms	Autism	5%	96	2%	54
		Developmental Delays	17%	348	19%	390
		Deaf-Blindness	0%	0	4	<1%
		Emotional Disturbance	70	3%	74	4%
		Hearing Impairment	9	<1%	32	2%
		Learning Disability	660	31%	514	25%
		Mental Retardation	68	3%	96	5%
		Multiple Disability	15	1%	14	<1%
		Orthopedically Impaired	5	<1%	7	<1%

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Item Number	Item Topic	Response Selection within Topic	Schools that Met AYP Targets		Schools that did not Meet AYP Targets	
			Percent	Frequency	Percent	Frequency
		Other Health Impaired	216	10%	180	9%
		Severe Disability	0%	0	0%	0
		Speech & Language Impairment	604	29%	698	33%
		Traumatic Brain Injury	5	<1%	5	<1%
		Visual Impairment	6	<1%	6	<1%
5.	Number of Students in Inclusive Reading Classes		1348	64%	1080	52%
6.	Number of Students in Inclusive Math Classes		1388	66%	1097	53%

their roles as assistant principals, 6% (n=2) and "Other", which included special

education teachers and respondents who did not specify their role, 11% (n=3). Eighty-two

percent (n= 27) of respondents from schools that did not meet the AYP pass rates

identified their role as principal, while 6 % (n=2) reported that they were assistant

principals, and 12 % (n=4) indicated "Other" and reported that they were teachers.

Respondent Role during the 2005-2006 School Year. Respondents from schools

that met the AYP targets indicated their roles during the 2005-2006 school year as 71%

(n =25) principals, 17% (n = 6) assistant principals, 11% (n = 4) "Other", including

special education teachers and respondents who did not specify their roles. For the 2005-

2006 school year, 67% (n = 22) of respondents from schools that did not meet the targets, indicated that they served as building principals, assistant principals - 15% (n = 5) and Other- 12% (n = 6). Respondents in the category of "Other" reported that they served as teachers or did not identify their role.

Number of Students with Disabilities Served during the 2005-2006 School Year. Respondents were asked to provide the total number of students with disabilities served in their schools. Schools that made AYP targets served 2102 students with disabilities (M = 60) and schools that did not meet the AYP targets served 2084 (M = 63) students with disabilities.

Number of Students with Disabilities Served in 2005-2006 by Disability Category and Assignment to Inclusive Classes. Respondents representing schools that met the AYP targets indicated that their schools served 2102 students with disabilities. Students with learning disabilities represented the most frequently served group with 31% (n = 660) followed by students with speech and language impairments 29% (n = 604) and, students with developmental delays 17% (n = 348). Disabilities categories less frequently represented in schools that met the targets included: other health impairments 10% (n = 216), autism 5% (n = 96), emotional disturbance 3% (n = 70), mental retardation 3% (n = 68). Students identified as deaf-blind, hearing impaired, multiple-disabled, severely disabled, traumatic brain injured, and visually impaired were not represented or represented less than 1% of students with disabilities served in these schools.

Respondents from schools that failed to meet AYP targets indicated that their schools served 2084 students with disabilities and that students with speech and language

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impairment 33%, (n = 698), learning disabled 25% (n = 514), and developmentally delayed 19% (n = 390) were the most predominate disability categories represented. Other students with disabilities included students with other health impairments 9% (n = 180), students with emotional disturbance 4% (n = 74), students with mental retardation 5% (n = 96), students with autism 2% (n = 54), and students with hearing impairments 2% (n = 32). Students with deaf-blindness, multiple disabilities, orthopedic impairments, severe disabilities, traumatic brain injury, and visual impairments represented less than 1% of the students with disabilities or were not served in this group of schools.

Number of Students with Disabilities Served in Inclusive Reading Classes.

Respondents were asked to estimate the number of students with disabilities who had reading instruction in inclusive reading classes. Schools that met the AYP targets served 64% (n = 1348) of students with disabilities in inclusive reading classes, while schools that did not meet the AYP targets for students with disabilities served fewer students with disabilities in inclusive reading classes. Schools that did not reach the AYP targets, served 52% (n = 1080) of students with disabilities in inclusive reading classes.

Number of Students with Disabilities Served in Inclusive Mathematics Classes.

Respondents were asked to estimate the number of students with disabilities who received mathematics instruction in an inclusive setting. Schools that met the AYP targets served 66% (n = 1388) of students with disabilities in inclusive classes for mathematics, while schools that did not meet the AYP targets served 53% (n = 1097) of their students with disabilities in inclusive mathematics classes.

Research Question 1:

To what extent are elementary schools in Virginia achieving the AYP target in mathematics for students with disabilities?

Data for the first and second research questions were collected from an extant database provided by the Virginia Department of Education, Division of Educational Information Management Services. After state assessment scores, including the Standards of Learning (SOL) assessments scores, the Virginia Grade Level Alternative Assessment (VGLA) scores, and the Virginia Alternate Assessment Program (VAAP) scores are reported to the Virginia Department of Education, pass rates, and the associated AYP determinations are calculated by the Division of Educational Information Management Services. Scores calculated for assessments administered for the 2005-2006 school year included 712 elementary schools serving students in grades K-5. This database was analyzed in order to determine the number of elementary schools that achieved the required pass rate of 67% on state mathematics assessments and the required pass rate of 69% on state reading assessments.

Fifty-four percent (n = 385) of schools reached the 2005-2006 AYP mathematics target for students with disabilities by achieving a pass rate on the state mathematics assessments of 67% or higher and 45% of schools (n = 322) did not achieve this required pass rate. Further examination of this data revealed that schools that reached the AYP targets in mathematics achieved a mean pass rate of 81% and schools that did not reach the target earned a mean pass rate of 46% for students with disabilities.

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Research Question 2:

To what extent are elementary schools in Virginia achieving the AYP target in reading for students with disabilities?

A larger number of elementary schools, 58% (n = 414) achieved a pass rate of 69% or higher in reading, thereby achieving the AYP reading target, while 41% (n = 293) of elementary schools failed to meet the requirement target. The mean pass rate for students with disabilities in schools that met the AYP reading target was 85% and the means pass rate for schools that did not meet the AYP reading target was 54%.

In addition to using the Educational Information database to examine the pass rates of each content area separately, the database was also used to determine the number of elementary schools that met both the mathematics and reading targets and the number of schools that failed to meet both content area AYP targets. Table 4 provides a summary of the percentage of elementary schools that met the AYP targets and schools that did not in mathematics and reading and the associated pass mean rates in each content area. All pass rate percentages were rounded to the nearest whole number.

An analysis of the data revealed that 46% (n = 326) of elementary schools obtained both the mathematics and the reading AYP targets for students with disabilities, while 33% (n = 234) failed to meet both targets. Schools that met the required AYP targets for both content areas obtained a mean pass rate of 81% and 83% in mathematics and reading respectively. Schools that did not meet the AYP targets in mathematics and reading for students with disabilities earned a pass rate of 49% for mathematics and 56% for reading.

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Although some elementary schools met the targets for mathematics and reading for students with disabilities, an alarming percentage did not. Approximately one-third of elementary schools missed the mark in both content areas, while slightly over half met the target in one of the content areas. The significant number of elementary schools in Virginia that did not meet these targets is a clear indication that the achievement desired for students with disabilities in the important content areas of mathematics and reading has not been obtained. It is likely that many Virginia elementary schools may be in need of more effective school practices if improved outcomes for students with disabilities are to be realized.

Table 4

Math and Reading AYP Performance of Elementary Schools for Students with Disabilities

AYP Performance	Percent	N	Pass Rate Mathematics	Pass Rate Reading
Mathematics				
Met Targets	54%	385	81%	-
Did Not Meet Targets	45%	322	46%	-
Reading				
Met Targets	58%	414	-	85%
Did Not Meet Targets	41%	293	-	54%
Mathematics and Reading				
Met Targets	46%	326	81%	83%
Did Not Meet Targets	33%	234	49%	56%

Note. Dash (-) indicates non-applicable data.

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Research Question 3:

To what degree are selected elementary schools practicing inclusion?

In order to collect and analyze data on inclusive practices in selected Virginia elementary schools, respondents were asked to complete Section II of the Marsh Inclusion Scale-Revised (Abbreviated Version). The Marsh Inclusion Scale-Revised used the "ideal" inclusion program as the benchmark to evaluate the degree to which a school or program exhibits the essential features of inclusion (Vantre, 2000). The scale was validated in 2000 by a panel of experts and a group of teachers knowledgeable and experienced in inclusion. In addition to determining the scale's construct validity, reliability was also determined through test-retest data which yielded a Pearson Correlation of .94. The scale was also pilot tested in one Virginia school division by this researcher to determine its appropriateness for this study.

The Marsh Inclusion Scale-Revised (Abbreviated Version) contained two sections. Section I addressed general demographic information and Section II contained 58 items that addressed the essential features of inclusion documented in the literature. Essential features included were collaborative culture, leadership, coherent vision, comprehensive planning, high expectations, parental/family/student involvement, funding/resources, positive interactions, supportive policies, student supports, professional development, use of research-based strategies, curricular adaptations, transformed roles and responsibilities, team planning, evaluation, sustained implementation, and the use of refocused or alternative student assessments.

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Respondents recorded their responses to each item using the following three point Likert scale: 0 = Not Present; 1 = Somewhat Present; 2 = Clearly Present. Section II also provided respondents with a space for comments with directions to use the area to provide any additional information regarding inclusive practices in their schools.

In scoring the scale, numerical values were totaled to calculate a score, which represented the degree of inclusive practice present. The higher the number of essential features implemented in a school, the higher the total score and conversely, the lower the number of essential features exhibited, the lower the score. The highest possible score was 116 (100%), which means that all the essential features of inclusion were clearly present in the school. Similarly the lowest possible score was 0 (0%). This score meant that no essential features of inclusion were present in the school.

Schools that achieved the AYP targets for students with disabilities scored between 47 to 116 on the Marsh Inclusive Scale-Revised with a mean score of 91.57 (79%). This mean score fell in the highest quartile of scores on the Marsh Inclusion Scale and indicated that this group of schools approaches ideally implemented inclusive programs. Schools that did not meet the targets had scores ranging from 0 to 112, with a mean score of 84.18 (72%). This mean score fell within the 2nd quartile of inclusive scores. Schools that met AYP benchmarks evidenced a higher number of inclusive features than schools that did not achieve the targets.

Table 5 provides the mean item scores and independent sample t-test results on the Marsh Inclusion Scale for schools that reached the AYP benchmarks for students with disabilities and the schools that did not. Features that were clearly evident and received

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Table 5

Marsh Inclusion Scale Item Mean Scores and 2-tailed t-tests

Marsh Inclusion Scale Item Number	Item Statement	Mean Score Schools that Met Targets	Mean Score Schools that Did Not Meet Targets	Sig.
1.	Teachers have positive attitudes towards inclusion	1.69	1.31	.008*
2.	Co-teachers plan together prior to teaching	1.49	1.31	.004*
3.	Collaborative relationship exist among inclusion staff	1.34	1.21	.406
4.	General and special educator collaborate on issues	1.57	1.48	.546
5.	Inclusion receives administrative support	1.89	1.76	.249
6.	Principal is involved and supportive of inclusion	1.91	1.79	.231
7.	Principal provides meeting and release time for teams	1.57	1.30	.114
8.	Division leaders have positive attitudes re inclusion	1.77	1.64	.313
9.	Effective communication exists among staff	1.57	1.33	.122
10.	Administrators have positive attitudes towards SWD	1.97	1.73	.030*
11.	A "school reform movement" exists in the school	1.37	1.21	.361
12.	Collaborative teams exist and meet regularly	1.11	1.15	.848
13.	Included SWD are expected to participate in class	2.00	1.76	.013*
14.	Included SWD are held accountable for their behavior	1.86	1.67	.133
15.	Inclusive educators have high expectations for all	1.80	1.58	.111
16.	SWD are included in the IEP process as appropriate	.57	.97	.052

Note. * p<.05

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Marsh Inclusion Scale Item Number	Item Statement	Mean Score Schools that Met Targets	Mean Score Schools that Did Not Meet Targets	Sig.
17.	Parents of SWD participate in the IEP process	1.94	1.67	.013*
18.	Regular communication between parents & staff	1.77	1.70	.571
19.	Teachers have positive attitudes towards SWD	1.66	1.42	.131
20.	Division funding appropriate for schools needs	1.37	1.12	.116
21.	Inclusive classrooms have appropriate resources	1.57	1.30	.103
22.	Staff refers to SWD by name or people first language	1.83	1.67	.233
23.	Curriculum has social competence & lifelong learning	1.46	1.21	.100
24.	Social interaction fostered between SWD & SWOD	1.62	1.42	.249
25.	Activities are used that promote social interaction	1.88	1.64	.054
26.	Classroom climate is positive & accepts differences	1.82	1.70	.327
27.	Inclusion provided across all grade levels	1.94	1.61	.015*
28.	SWD in age & grade appropriate general ed. classes	1.94	1.82	.261
29.	IEPs are written for implementation in general ed.	1.71	1.55	.276
30.	SWD have same schedule, activities as SWOD.	1.85	1.73	.367
31.	Included SWD participate in same electives	1.50	1.67	.456
32.	Included SWD arrive & leave school like SWOD	1.91	1.79	.314
33.	Physical adaptations are made prior to placement	1.65	1.45	.319

Note. *p <.05

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Marsh Inclusion Scale Item Number	Item Statement	Mean Score Schools that Met Targets	Mean Score Schools that Did Not Meet Targets	Sig.
34.	School is physically accessible to all students	1.71	1.64	.670
35.	IEP include supports for success in gen. ed. Classes	1.88	1.73	.206
36.	Prior to inclusion, staff is familiar w/ SWD needs	1.65	1.52	.378
37.	Technology & modifications are available & used	1.79	1.58	.126
38.	Classroom modifications are available & used	1.68	1.61	.658
39.	Inclusive classrooms are supported by specialists	1.76	1.76	.958
40.	Specialist's services are fully utilized	1.76	1.50	.113
41.	Inclusion staff read and understand IEPs	1.56	1.30	.085
42.	Teachers have support & professional development	1.44	1.24	.152
43.	Staff receives training prior to inclusive program	1.32	1.18	.366
44.	Inclusion staff receives ongoing curricular training	1.21	1.36	.304
45.	Inclusion teachers have knowledge of SWD issues	1.41	1.21	.181
46.	Positive behavioral supports strategies are used	1.65	1.61	.782
47.	Co-teacher schedule regular weekly planning time	1.29	1.24	.753
48.	Teachers have blocks of time for inclusion planning	1.03	.97	.756
49.	Collaboration occurs frequently, not only problems	1.43	1.33	.533

Note. *p <.05

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Marsh Inclusion Scale Item Number	Item Statement	Mean Score Schools that Met Targets	Mean Score Schools that Did Not Meet Targets	Sig.
50.	Curriculum is adapted as needed to accommodate	1.63	1.48	.313
51.	Alternative instructional methods are used	1.63	1.52	.404
52.	Inclusion teachers have high efficacy	1.54	1.30	.145
53.	Inclusion staff understand new roles & responsibilities	1.43	1.42	.517
54.	General educators work as team members	1.69	1.58	.451
55.	Students academic and social gain are monitored	1.80	1.64	.192
56.	Teachers monitor teacher methods to meet objectives	1.51	1.36	.330
57.	Inclusion staff receives ongoing training in inclusion	1.37	1.30	.662
58.	Authentic assessments & evaluations are used	1.63	1.36	.085

Note. * p<.05

means of 1.8 or higher were analyzed for both groups of schools. A mean of 1.8 and

higher was chosen to select those features in the highest quadrant (1.8 – 2.0) and

therefore considered to be the strongest features in each group of schools. These features

in schools that met AYP targets in mathematics and reading included the following:

Inclusion receives administrative support (M = 1.89); Supportive and involved

administrators (M = 1.91); Administrators have positive attitude towards students with

disabilities (M = 1.97); Included students with disabilities expected to participate in class

(M = 2.00); Included students with disabilities are held accountable for their behavior (M

= 1.86); Parental participation in the IEP process (M = 1.94); Use of people first language

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(M = 1.83); Activities that promote social interactions between students with disabilities and students without disabilities (M = 1.88); Classroom climate is positive and accepts differences (M = 1.82); Inclusion provided across grade levels (M = 1.94); Inclusion provided in age and grade level appropriate general education classes (M = 1.94); Included students share the same schedule, activities and electives as general education students (M = 1.85); Included students with disabilities arrive and leave school like students without disabilities (M = 1.91); IEP includes supports for success in general education classes (M = 1.88); and Student academic and social gains are monitored (M = 1.80).

Schools that did not achieve required AYP targets did not evidence any features at the 1.9 level or higher. This group of schools only showed one features at the 1.8 level which was: Students with disabilities in age and grade level appropriate general education classes (M = 1.82).

An independent t-test for equality of means was performed to identify statistically significant differences between the item mean scores of schools that met AYP targets and schools that did not meet AYP targets. Analysis of results indicated that six items showed significant differences in the mean scores obtained by the two groups of schools. These items included teacher attitudes, administrator attitudes, co-teachers planning together prior to teaching, expectations of students with disabilities in inclusive classes, parental participation in the IEP process, and the availability of inclusion across all grade levels.

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The item related to teacher attitude read, *"Teachers have a positive attitude towards inclusion (i.e., feel general education classrooms are appropriate for meeting the needs of students with disabilities)."* Results of the t-test, t (65) = 2.723, p = .008 indicated that the mean score on this item for schools that met the AYP targets (M = 1.69) was significantly different from the mean of schools that did not meet the AYP targets (M = 1.31).

The item related to administrator attitude read, *"Administrators have positive attitudes towards students with disabilities."* Results of the t-test, t (66) = 2.224, p = .030 showed a significant difference in the mean score (M = 1.97) for schools that met the targets and a mean score (M = 1.73) for schools that did not meet the targets.

Another item that evoked significantly different mean scores was, *Prior to teaching together, co-teachers take time to get acquainted, plan, establish agreement on issues such as curriculum, instructional strengths and weaknesses, classroom rules and routines, classroom management and progress monitoring.* Schools that met the targets earned a mean score (M = 1.49) compared to a mean score (M = 1.18) for schools that did not meet the targets. T-test results, t (66) = 2.092, p =.040.

The fourth item that had a significant difference in mean scores read, *Included students with disabilities are expected to participate in class, as are their general education classmates (according to their IEPs and with adaptations).* Results of the t-test, t (66) = 2.559, p = .013 indicated that a significant difference existed between the

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item mean (M = 2.00) for schools that reached the targets and a mean score (M = 1.76) for schools that did not achieve AYP targets.

The fifth item in which a significant difference was evident in mean scores read, *"Parents of students with disabilities participate in their child's IEP process."* Results of the t-test, t (66) = 2.543, p = .013 showed that the mean score of schools that reached the targets (M = 1.94) was significantly different from the mean score of schools that did not reach the targets (M = 1.67).

The final item which showed significant difference read, *"Inclusion provided across all grade levels (i.e. students with disabilities will move to the next grade level with their classmates."* Results of the t-test, t (65) = 2.487, p = .015 indicated that the mean score (M = 1.94) for schools that achieved AYP targets was significantly different from the mean score (M = 1.61) for schools that did not achieve the AYP targets.

In addition to providing an overall score and individual item scores related to the extent of inclusion, items on the Marsh Inclusion Scale-Revised (Abbreviated Version) were also organized into three sub-categories: Organizational Climate and Culture, Professional Practice, and Accountability. Marsh Inclusion Scale sub-categories statistical data are provided in a descriptive summary in Table 6.

Organizational Climate and Culture (Items 1-32) related to inclusive features that included attitudes and beliefs, leadership, policies, funding, resources, interactions between staff, interactions between staff and students, family involvement, expectations, and school planning activities. Professional practice (Items 33-54) included student issues such as availability of student supports, the use of effective instructional strategies and

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curricular adaptations. This category also addressed teacher related issues including professional development opportunities, staff roles and responsibilities, and the provision of team planning time. The third area, Accountability (Items 55-58), addressed the efforts in the school to review and assess program effectiveness. This category included program evaluation, sustained implementation and the use of assessments to monitor student progress.

Organizational Climate and Culture. The sub-category of Organizational Climate and Culture represented 32 items on the Marsh Inclusion Scale and primarily addressed

Table 6

Marsh Inclusion Scale Sub-Category Statistics for
Schools that Met AYP and Schools that Did Not Meet AYP

Sub-Categories	Respondents	M	SD	Std Error Mean	t	Sig
Organizational Climate and Culture	Met Targets	51.83	8.80	1.49	1.71	.09
	Did Not Meet Targets	47.03	14.57	2.46		
Professional Practice	Met Targets	33.43	8.55	1.45	.87	.39
	Did Not Meet Targets	31.48	10.43	1.76		
Accountability	Met Targets	6.31	1.96	.33	1.37	.17
	Did Not Meet Targets	5.67	1.99	.33		

Note. *p<.05*

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support afforded to inclusion at the leadership level, including the availability of resources and the use of supportive policies. Additionally, this sub-category also addressed the attitude and involvement of the administration and staff towards inclusion and their interactions with each other, parents, and students with disabilities. Schools that earned AYP targets for students with disabilities obtained a mean score (M = 51.83), while schools that did not meet the AYP targets for students with disabilities earned a mean score (M = 47.03). Results of the t-test, t (66) = .092, p = .09 suggested there is not a statistical difference between the means of schools that earned the AYP targets and the means schools that did not achieve the AYP mathematics and reading targets for students with disabilities.

Professional Practice. Professional Practice is addressed in 21 items on the Marsh Inclusion Scale. The particular themes that were evident in this sub-category included issues that would need to be addressed prior to placement in inclusive classrooms, such as architectural adaptations, modifications and supports added to IEPs, as well as understanding the IEP and individual student characteristics and needs. Other themes in this dimension included availability of support staff, professional development and training and team planning time.

Similarities were noted between schools that made AYP targets and schools that did not in the area of Professional Practice. Schools that reached the AYP targets earned a mean score (M = 33.43) while schools that did not meet AYP targets earned a slightly lower mean score (M = 31.48). Results of the t-test, t(66) = .572 p = .39 did not indicate

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a significant difference between schools that met the mathematics and reading targets and schools that did not.

Accountability. Four items on the Marsh Inclusion Scale represented the sub-category of Accountability. Specific features addressed in these items included evidence that the school monitors and evaluates its programs and the resulting impact on student performance. Responses to items addressing accountability efforts in the school revealed that schools that met the AYP targets demonstrated similar performance to schools that did not meet the targets. Schools that achieved the AYP targets earned a mean score (M = 6.31) compared to a mean score (M = 5.67) for schools that did not meet the targets. Results of the t-test, t (66) = .972, p = .17 did not indicate a significant difference between the means in this sub-category.

Respondent Comments. Respondents were asked to use the comment section to provide additional information regarding inclusive practices in their schools. A total of 23 comments were made. Respondents representing schools that met AYP targets offered 52% (n = 12) of comments and their counterparts from schools that did not meet the targets offered 48% (n = 11) of comments. Although 65% (n = 11) of comments provided a general description of the program, specific themes were noted in others. Twenty-two percent (n = 5) of comments stated specific concerns with the staff needing to support inclusive efforts. Respondents indicated a concern with the lack of staff to implement inclusive programs and the struggle to meet needs without the necessary personnel. This theme was clear in the comment written by one respondent who wrote, "We do not have the staff to support a full inclusion model so we do what we can with the staff and

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resources available." Other themes included planning time and teacher attitude. Nine percent (n = 2) of comments addressed teacher attitude while one comment was made on planning time.

In sum, these analyses suggested that although inclusion is practiced in both group of schools, the implementation of inclusion has distinct variations. Schools that met the AYP benchmarks evidenced more inclusive features overall than their counterparts. A closer examination of the item profile of both group of schools showed significant differences in features related to positive teacher attitude, positive administrator attitude, co-teacher planning prior to instruction, parental participation in the IEP process, participation expectations for students with disabilities in general education classes and the availability of inclusive classrooms across all grade levels. Statistically significant differences were not evident across the three scale sub-categories which included: Organizational Climate and Culture, Professional Practice and Accountability.

Research Question 4:

Is there a relationship between the achievement of the AYP target in mathematics for students with disabilities and inclusive practice in elementary schools?

In order to determine if a relationship existed between inclusive practice in elementary schools and the achievement of students with disabilities in mathematics, the overall scores on the Marsh Inclusion Scale-Revised (Abbreviated Version) were correlated to the pass rate in mathematics. Scores on the Marsh Inclusion Scale for schools that met the AYP targets ranged from 47 – 116 with a mean score of 91.57. Data

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on the pass rates of these schools revealed that the pass rates for schools that met the

AYP targets ranged from 70% to 100% in mathematics with a mean of 81%.

Scores on the Marsh Inclusion Scale for schools that did not reach the AYP

benchmarks ranged from 0 – 112 with a mean score of 84.18. The pass rates for these

schools ranged from 13% to 66% in mathematics with a mean of 46%. Table 7 provides

the mean pass rates, pass rate ranges, and Marsh Inclusion Scale mean scores for

elementary schools that met the targets and schools that did not.

Table 7

Comparison of Mean Pass Rates, Ranges and Mean Marsh Scores
for Schools that Met AYP Targets and Schools that Did Not Meet AYP Targets

AYP Performance	Math		Reading		Marsh Scale Mean Score
	Mean Pass Rate	Pass Rate Range	Mean Pass Rate	Pass Rate Range	
Met Targets	81%	70% - 100%	85%	70% - 100%	91.57
Did Not Meet Targets	46%	13% - 66%	54%	29% - 68%	84.18

A Pearson Correlation was conducted to determine if there was a relationship

between the implementation of inclusion and the mathematics and reading achievement

of students with disabilities. A .05 significance level was used to test significance.

Schools that met AYP mathematics targets for students with disabilities did not

demonstrate a significant correlation between inclusive practice (M = 91.57, SD = 18.45

and mathematics achievement (M = 85, SD = 9.32), r = -.264. Similarly schools that did

not meet AYP targets for students with disabilities did not evidence a significant

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correlation between inclusive practice (M = 84.18, SD = 26.17) and mathematics achievement (M = 45.63, SD = 12.03) r = .207.

Research Question 5:

Is there a relationship between the achievement of the AYP target in reading for students with disabilities and inclusive practice in elementary schools?

A Pearson Correlation was conducted to determine if a relationship existed between inclusive practice and the reading achievement of students with disabilities using the Marsh Inclusion Scale and the reading pass rates. Again a .05 significance level was used in this analysis. Schools that met AYP in reading did not demonstrate a significant correlation between inclusive practice (M = 91.57, SD = 18.45) and reading achievement (M = 80.94, SD = 8.93), r=-.313. Likewise schools that did not meet AYP performance targets for students with disabilities did not evidence a significant correlation between inclusive practice (M = 84.18, SD = 26.17) and reading achievement (M = 53.79, SD =11.37), r =.148.

Although these results did not indicate that there is a significant relationship between the achievement of AYP mathematics and reading targets for students with disabilities and inclusive practice in elementary schools, they should be interpreted with a degree of caution due to the sensitivity of correlation values to the restricted ranges in the variables related to inclusive practices and achievement pass rates.

Summary of Analysis

The purpose of this study was to investigate the relationship between inclusive practice and the mathematics and reading achievement of students with disabilities in

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Virginia elementary schools. This study used principals as the primary respondents to the Marsh Inclusion Scale-Revised (Abbreviated Version). The Marsh Inclusion Scale assessed each school on the presence of essential features of inclusion described in the literature. In addition to the Marsh Inclusion Scale, data on the achievement of students with disabilities was obtained and analyzed using the 2005-2006 pass rates on state assessments provided by the Virginia Department of Education, Division of Educational Information Management System. The combined data from the Marsh Inclusion Scale and the pass rates data were used to address the five research questions posed in this investigation.

Data collected from the respondents revealed that the majority, or 82% (n = 56), were elementary principals during the 2006-2007 school years and 69 % (n = 47) were principals during the 2005-2006. The 2005-2006 school year was the timeframe used for this study.

A total of 68 respondents completed the Marsh Inclusion Scale with 51% (n =35) representing schools that achieved the AYP benchmarks in mathematics and reading with a 67% pass rate or higher on state assessments for students with disabilities in mathematics and a 69% pass rate or higher on state assessments for students with disabilities in reading. Forty-nine percent (n = 33) of respondents represented schools that did not meet the AYP mathematics and reading benchmarks. These schools earned pass rates lower than 67% for mathematics and lower than 69% for reading.

An analysis of the data indicated that less than half of Virginia schools, 46%

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(n = 326), attained both the AYP targets for mathematics and reading and conversely 33% (n = 234) failed to meet both targets. In addition to an analysis of state level achievement data, a closer examination was made of selected schools sampled for this study. This analysis revealed that schools that met both AYP benchmarks served a larger number of students with disabilities in inclusive classrooms for mathematics and reading than schools that did not meet the targets. These schools also revealed a higher number of essential features of inclusion than their counterparts. An analysis of the individual items on the scale indicated differences in the overall profile of the two groups of schools, as well as significant differences on six items. Schools that met AYP targets earned markedly higher mean scores on teacher and administrator attitude towards inclusion, parental participation in the IEP process, co-teacher planning, participation expectations for students with disabilities in inclusion classrooms and provision of inclusion across grade levels.

The Marsh Inclusion Scale results were also analyzed along the dimensions or sub-categories of Organizational Climate and Culture, Professional Practice, and Accountability. Significant differences were not noted between schools that achieved AYP targets and schools that did not met AYP targets across either of the three dimensions.

In order to determine if a relationship existed between inclusive practice and the mathematics and reading achievement of students with disabilities, a bivariate correlation was conducted using the pass rates and inclusion scores. The pass rate of schools that met AYP targets had a mean score of 81% for mathematics and 85% for reading, which was

substantially higher than schools that did not meet the targets. The mean pass rate of schools that did not meet the targets was 46% for mathematics and 54% for reading.

Although practical and distinct differences were reported between schools that met AYP targets and schools that did not reach the benchmarks, results of the Pearson Correlation did not show a statistically significant correlation between the essential features of inclusion and the attainment of mathematics and reading performance targets for students with disabilities. It is noted that this finding should be interpreted with caution. The critical question of the relationship between inclusive practices in Virginia elementary schools and the achievement of students with disabilities in mathematics and reading will be further discussed in the next chapter.

Chapter V

Discussion, Implications, and Recommendations

The achievement of all learners is the cornerstone of educational accountability. Although students with disabilities have traditionally lagged behind, the mandates of No Child Left Behind require students with disabilities to perform at the same level as other students on mathematics and reading state assessments to meet the Adequate Yearly Progress (AYP) targets. During the 2005-2006 school year, Virginia schools were required to achieve a pass rate of 67% and 69% respectively, on mathematics and reading assessments in order to meet the AYP performance targets in both content areas.

Research suggests that schools will not be able to attain these goals using traditional delivery practices that have been exclusionary in nature. The provision of educational services outside of general education settings such as resource rooms, self-contained classrooms, and separate facilities have not yielded favorable performance outcomes for students with disabilities. Exclusive delivery options have been associated with significant achievement gaps as large as 37% on statewide mathematics and reading assessments between students with disabilities and students without disabilities (Bielinski & Ysseldyke, 2000).

In light of the probability that exclusionary practices will undermine the performance of students with disabilities, a serious consideration of educational services delivered through a more inclusive system is warranted. Inclusion is a promising practice in the field of special education that ensures students with disabilities are served in

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general education classrooms with age appropriate peers and are provided with instructional supports to access curricular content.

This study specifically examined inclusive practices in elementary schools and explored the relationship between inclusion and the attainment of AYP targets for students with disabilities in mathematics and reading. First it examined the frequency of the attainment of AYP achievement targets in mathematics (67% pass rate required) and reading (69% pass rate required) for students with disabilities in elementary schools during the 2005-2006 school year. Secondly, the study solicited information from elementary principals representing schools that met the targets and from principals representing schools that did not meet the targets regarding their inclusive practices. Thirdly, the study examined differences between schools that met the targets and the schools that did not and the relationship between mathematics and reading achievement and inclusive practices.

Data for the study were obtained from two major sources: an extant database provided by the Virginia Department of Education and survey results from the Marsh Inclusion Scale-Revised (Abbreviated Version). Mathematics and reading pass rate data for 2005-2006 were obtained from an extant database from the Virginia Department of Education. Information on the inclusive practices was collected using the results of the Marsh Inclusion Scale, a 58-item likert survey aligned with the literature on the essential features of inclusive practice. The three sub-categories of the scale, Organizational Climate and Culture, Professional Practice, and Accountability provided insights along specific dimensions of inclusive practice.

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The Marsh Inclusion Scale was sent to 150 randomly selected elementary principals, 75 representing elementary schools that achieved the AYP targets in mathematics and reading and 75 principals representing elementary schools that did not achieve these targets for students with disabilities. A total of 68 completed surveys were returned, 51% (n = 35) of surveys from schools that met the AYP targets in mathematics and reading and 49% (n = 33) of surveys from schools that did not meet the AYP targets.

The Marsh Inclusion Scale results along with the Virginia Department of Education database were statistically analyzed to answer the following research questions:

1. To what extent are elementary schools in Virginia achieving the AYP target in mathematics for students with disabilities?

2. To what extent are elementary schools in Virginia achieving the AYP target in reading for students with disabilities?

3. To what degree are selected elementary schools practicing inclusion?

4. Is there a relationship between the achievement the AYP target in mathematics for students with disabilities and inclusive practice in elementary schools?

5. Is there a relationship between the achievement of the AYP target in reading for students with disabilities and inclusive practice in elementary schools?

This chapter summarizes the study results and discusses the major findings and their implications for school leaders. Recommendations are also offered for future

research efforts related to the topic of academic achievement of students with disabilities and inclusive practices.

Summary of Findings

The findings of the study are summarized as follows:

1. Fifty-four percent (n = 385) of the elementary schools in Virginia reached the AYP mathematics benchmark for students with disabilities and 58% (n = 414) earned the benchmark in reading. Less than half, 46% (n = 327), of Virginia's elementary schools attained both of the required AYP mathematics target of 67% pass rate for students with disabilities and the required AYP reading target of 69% pass rate for students with disabilities during the 2005-2006 school year.

2. Schools that met AYP targets earned a mean pass rate of 81% on state mathematics assessments while schools that did not meet the targets earned a mean pass rate of 49%.

3. Schools that met AYP targets earned a mean pass rate of 83% on reading assessments and schools that did not meet the targets earned a mean pass rate of 56% on the reading assessments.

4. Schools that met the targets and schools that did not meet the targets were similar in that both served students with disabilities considered to be in the mild to moderate range of disability, including students identified with speech and language impairments, learning disabilities, and developmental delays. Students less frequently represented in both groups of schools were

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students identified with autism, mental retardation, emotional disturbance, other health impairments, and hearing impairments. Disabilities represented less than 1% or not at all included students identified with severe disabilities, multiple disabilities, deaf-blindness, orthopedic impairments, traumatic brain injury, and visual impairments.

5. Schools that met AYP targets served more students with disabilities in inclusive mathematics classes than schools that did not meet the targets. Schools that met the targets served 66% (n = 1388) of students with disabilities in inclusive mathematics classes, while schools that did not meet the targets served 53% (n = 1097) of students with disabilities in inclusive mathematics classes.

6. Schools that met AYP targets served more students with disabilities in inclusive reading classes than schools that did not meet the targets. Schools that achieved the targets served 64% (n = 1348) of students with disabilities in inclusive reading classes, while schools that did not meet the targets served 52% (n = 1080) of students with disabilities in inclusive reading classes. Schools that met AYP mathematics and reading targets evidenced a mean score of 91.57 on the Marsh Inclusion Scale- Revised (Abbreviated Version) while their counterparts that did not meet the targets earned a mean score 84.18 on the Marsh Inclusion Scale-Revised (Abbreviated Version). Although t-test results did not indicate a significant difference between the mean scores on the Marsh Inclusion Scale of schools

that met the AYP targets and schools that did not, a significant difference was

noted on six individual items on the scale. These items included: positive

teacher attitudes, positive administrator attitudes, parental participation in the

IEP process, co-teacher planning, participation expectations for students with

disabilities in inclusive classrooms, and the provision of inclusion across

grade levels. The item stating: *Teachers have positive attitudes towards*

inclusion (i. e., feel regular education classrooms are appropriate for

meeting the needs of students with disabilities) earned a mean score of .69 at

schools that met the targets and mean score of 1.31 at schools that did not

meet the targets. The second item which stated: *Administrators have positive*

attitudes towards students with disabilities received a mean score of 1.97 for

schools that met the targets and of 1.73 in schools that failed to achieve the

performance targets. The third item was: *Co-teachers plan together prior to*

teaching. Schools that met the targets received a mean score of 1.49 while

their counterparts that did not meet the targets received a mean score of 1.18.

The fourth item that evoked significantly different mean scores was: *Included*

students with disabilities are expected to participate in class, as are their

general education classmates (according to their IEPs and with adaptations).

Schools that met the targets earned a mean score of 2.00 compared to a mean

score of 1.76 for schools that did not meet the targets on the expectations of

students with disabilities included in inclusive classrooms. The fifth item in

which significant differences were noted was: *Parents of students with*

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disabilities participate in the IEP process. Schools that obtained the AYP targets earned a mean score of 1.94 while schools that did not meet the AYP targets earned a mean score of 1.67. Finally, the sixth item in which a statistical difference existed was: *Inclusion is provided across all grade levels (i.e. students with disabilities will move to the next grade level with their classmates).* Schools that reached the targets earned a mean score of 1.94 on the provision of inclusion across grade levels, compared to a mean item score of 1.61 for schools that did not achieve the targets.

7. Significant differences were not indicated according to t-test results between schools that met AYP targets and schools that did not meet the targets across the sub-categories of Organizational Climate and Culture, Professional Practice, and Accountability on the Marsh Inclusion Scale. Mean scores for schools that met the targets were: Organizational Climate and Culture (M = 51.83), Professional Practice (M = 33.43) and Accountability (M = 6.31) whereas schools that did not meet the targets earned the following mean scores: Organizational Climate and Culture (M = 47.03), Professional Practice, (M = 31.48) and Accountability (M = 5.67).

8. A Pearson Correlation was conducted to determine if there was a significant relationship between the implementation of inclusion as reported by principals using the overall Marsh Inclusion Scale score and the achievement of students with disabilities in mathematics and reading as determined by pass rates on state assessments. No significant correlation

between inclusive practice and mathematics achievement or reading achievement in either group of schools was found.

Discussion of Findings

Existing research has consistently shown that exclusion does not improve the learning of students with disabilities, whereas academic gains have been noted for students with disabilities served in inclusive schools (Hall, 2002; Rea, McLaughlin, & Walther-Thomas, 2002; Strieker & Logan, 2001). This study sought to build on the growing literature in the field by examining inclusive practice in Virginia elementary schools and its relationship to achievement of students with disabilities in mathematics and reading. This section discusses findings regarding mathematics and reading achievement in elementary schools, inclusive practice and the relationship between the two.

Mathematics and Reading Achievement for Students with Disabilities in Elementary Schools. To investigate this issue, AYP data were gathered on all elementary schools serving students in Kindergarten through grade 5. Findings revealed that 46% (n = 326) of Virginia's 712 elementary schools met No Child Left Behind, AYP performance targets in mathematics and reading for students with disabilities in 2005 - 2006. Schools that met the targets achieved mean pass rates of 81% in mathematics and 85% in reading, while schools that did not meet the targets earned mean pass rates of 49% in mathematics and 56% in reading.

These findings are of particular interest because they suggest that elementary schools can achieve the stringent academic standards for students with disabilities that

have been imposed by NCLB. Undoubtedly many educators initially considered

mathematics and reading goals unrealistic for students with disabilities; with over 300

elementary schools meeting AYP targets, these data clearly prove that this is not the case.

These schools not only met the AYP performance targets for students with disabilities in

mathematics and reading, they exceeded them.

Despite the success of schools that have achieved AYP targets, the data suggested

that an alarming number, over half, of elementary schools in Virginia did not meet the

mark. Their students with disabilities in grades 3, 4, and 5 continue to struggle with

proficiency on academic content presented in the Standards of Learning. Clearly,

achievement gaps noted in extant literature persists for students with disabilities in

Virginia. Although alarming, these findings for elementary schools are consistent with

the performance of all Virginia schools for students with disabilities as reported to the

United Stated Department of Education by the Virginia Department of Education.

In examining schools that demonstrated satisfactory achievement for students

with disabilities and schools that did not, this study looked specifically at the relationship

between achievement and inclusive practice. More simply stated, what is the relationship

of inclusion to the success of schools that met the targets?

Inclusion in Virginia Elementary Schools. The term *inclusion* and its practice

have been fraught with considerable confusion and debate over the years. Although

scholars (Bateman & Bateman, 2002; Pearpoint, Forest, & Snow, 1992; Rogers, 1993;

Schrag & Burnette, 1994;) have defined inclusion differently, the common theme has

been the provision of education in general education classrooms with general education

peers. For the purpose of this study, inclusion was defined as students with disabilities who are instructed in the general education curriculum in general education classrooms along with their general education peers.

More specifically, an inclusive classroom was defined as a general education classroom where students with disabilities are assigned with age-appropriate peers and are provided with instructional supports to access the curriculum of the classroom. These definitions are consistent with the definition used by Virginia Department of Education (1993) in which inclusion was defined as "opportunities for all students with disabilities to have access to and participate in all activities of the total school environment, both academic and social, curricular and extracurricular; students would be educated with support and adaptations with peers without disabilities who are age-appropriate, in general education settings, and in their home school."

The use of a definition of inclusion in Virginia that is longstanding and consistent with common themes frequently expressed in the literature suggested that study respondents were likely to understand the fundamental concept of inclusion and respond to the survey items without undue confusion.

Survey Respondents. In order to gain information about the inclusive practices in elementary schools, elementary principals were asked to complete the Marsh Inclusion Scale. Although principals were requested to pass the survey on to another knowledgeable staff member if they were unable to complete the survey, 82% (n=56) of the principals responded. The high percentage of surveys completed by principals

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suggested that they felt they had sufficient knowledge of the practices in their schools to address topics presented in the scale.

Similarities and Differences in Inclusive Practice. Results of survey respondents indicated that the schools that met AYP benchmarks and those that did not possessed both similarities and differences. Both groups of schools primarily served students with disabilities considered in the mild to moderate range. Students with these disabilities were similar to students represented in achievement studies conducted by Rea, McLaughlin, and Walther-Thomas, (2002) and Strieker and Logan (2001) in which academic gains were noted when students were served in inclusive settings. Another area of similarity was the number of students with disabilities served in the schools that met AYP targets and schools that did not. Both served a comparable number of students with disabilities. Schools that met the targets served a mean of 60 students (n = 2102) while schools that did not served a mean of 63 (n = 2084).

Differences noted in the schools as reported by respondents were predominately in the number of students with disabilities that were served in inclusive classes for mathematics and reading. Schools that met the targets tended to serve a greater percentage of students with disabilities in inclusive classes for mathematics and reading. Comments from respondents from schools that did not met the AYP targets suggested that some schools served included students with disabilities in academic classes other than mathematics and reading, such as history and science, while others had only recently started to move towards inclusive practices.

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Although schools that met the AYP targets and schools that did not earned similar mean scores, 91.57% and 84.18% respectively, a closer examination and item analysis of responses revealed some distinct differences between the two groups of schools in the areas of teacher attitude, administrator attitude, parental participation in the IEP process, co-teacher planning, participation expectations of students with disabilities in inclusive classes, and the provision of inclusion across grade levels.

Teacher Attitude. Respondents from schools that met the AYP benchmarks reported that the item related to "positive teacher attitude towards inclusion" earned a mean score of 1.69 compared to a mean item score of 1.31 for schools that did not meet the targets. The mean earned for schools that met target suggested that their teachers were generally more open and accepting of the concept of educating students with disabilities in general education settings than teachers in schools that did not meet the AYP targets.

The issue of teacher attitude towards inclusion has been examined and is considered an important factor in the success of inclusive efforts. Rude and Anderson (1992) interviewed school staff including general and special education teachers and administrators in successful inclusion programs. Their study found that general education teachers were resistant to inclusion due to fear of the unknown and lack of training, while special educators expressed fears in releasing their students to their general education colleagues who lacked expertise and a desire to be responsible for students with disabilities.

The impact of teacher attitude was also reported in a 1996 study of seven Virginia co-teaching teams conducted by the Appalachia Educational Laboratory, the College of

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William and Mary, and the Virginia Education Association. Study respondents indicated, "Inclusion will only succeed if teachers are fully committed to the philosophy of inclusion. If teachers do not believe in inclusion or were selected for inclusion, then the program probably will not succeed." Similarly, Kochar, West, and Tayman (2000) reported attitudinal barriers might make changes in the classroom and teaching practices difficult to accept. The single indicator of teacher attitude may have a powerful impact on the day-to-day effectiveness of inclusive efforts and may provide insight into an important difference between successful and unsuccessful schools.

Administrator Attitude. Respondents from schools that achieved the AYP targets reported that the item which addressed *"positive administrator attitude towards students with disabilities"* earned a mean score of 1.97 while schools that did not meet the AYP targets earned a mean score of 1.73. The mean score for administrators in schools that meet the targets suggested that they have an overall positive regard for students with disabilities in their buildings as compared to school leaders in buildings that did not make AYP targets. Rude and Anderson (1992) suggested that if inclusion is to be successful, then the principal must demonstrate a positive attitude and display commitment to the inclusion of students with disabilities in general education classrooms.

Survey research conducted by Praisner (2003) which involved over 400 elementary principals found that only 20% of principals have positive attitudes towards inclusion, while the large majority was uncertain. Additionally, the study suggested that principals who are positive about inclusion are more likely to place students with disabilities in the least restrictive instructional settings. Not only does the attitude of the

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principal influence student placement, as the school leader, the principal's attitude has direct influence on critical organization functions such as the allocation of resources, communication flow and operating processes and procedures (Nanus, 1992).

The significant difference noted in administrator attitudes in schools that met the targets and schools that did not may single-handedly be the most powerful facilitator or barrier to inclusive efforts.

Co-teacher Planning. The importance of planning time has been frequently cited in the literature (Idol & Griffin, 1998; Lipsky & Gartner, 1995; Schaffner & Buswell, 1996; Scruggs & Mastroperi, 1996; Voltz, Brazil & Ford, 2001). The availability of adequate time for general education and special education teachers to engage in collaborative planning for instruction delivery was cited as a significant area of difference between schools that meet AYP targets and their counterparts that did not. Schools that met the AYP targets earned a mean score of 1.49 compared to a mean score of 1.31 for schools that did not met the targets. This difference suggested that schools that met the targets have done a better job of structuring the teacher's work time so that time is allotted to plan for the complexities of instructional delivery, to discuss student needs and to problem-solve so that the inclusive classroom truly benefits all learners, including students with disabilities.

Participation Expectations for Students with Disabilities in Inclusive Classrooms. Schools that reached the AYP targets earned a mean score of 2.00 on the item: "*Included students with disabilities are expected to participate in class*" compared to the mean item score of 1.76 for schools that did not make the targets. This item referred to expectations

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or standards that general education teachers and special education teachers have for students with disabilities in inclusive classrooms. The finding suggested that schools that met the targets expected students with disabilities to engage in general education classrooms as full members. This particular item also indicated that schools that reached the AYP targets have different expectations for students with disabilities in the academic, social and behavioral dynamics of the general education classroom. More simply stated, schools that achieved the AYP targets may hold students with disabilities and general education students to the same performance and conduct standards.

Parental Participation in the IEP Process. Another item that resulted in different mean scores for schools that met AYP targets and schools that did not was related to the participation of parents of students with disabilities in the IEP process. Schools that met the targets earned a mean score of 1.75 compared to a mean score of .96 for schools that did not meet the targets on the inclusion of students with disabilities in the IEP process. These differences in this item may highlight the important role that parents play in the development of IEPs that reflect inclusive service delivery models.

Provision of Inclusion across Grade Levels. In a study conducted by the Virginia Education Association, the Appalachia Educational Laboratory and the College of William and Mary (1996) when teachers were asked whether inclusion should be a part of the continuum of services across grade levels, they responded in the affirmative. Study participants cited the importance of being able to provide services according to each student's IEP in the least restrictive environment. Schools that met the AYP targets earned a mean score of 1.94 while schools that did not meet the targets obtained a mean

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score of 1.61. These differences suggested that schools that met the targets may have a more comprehensive inclusive program that spans across grade levels as opposed to pockets of inclusion. The provision of inclusion across grade levels may be particularly important to student achievement and performance on state assessments. One principal commented:

> State assessments are given at the elementary level in grades 3, 4, and 5. Although the assessments are not given to student enrolled in the lower grades, the grade 3 assessment includes content from kindergarten, and grades 1 and 2. To perform well on the assessment, students must be instructed in all of the content. In schools in which students with disabilities do not have access to the full breath of the content across grade levels their ability to perform well on the assessments may be seriously compromised.

Organizational Climate and Culture, Professional Practice, and Accountability.

Although statistical analysis did not indicate significant differences between the means scores on the Marsh Scale sub-categories of Organizational Climate and Culture, Professional Practice, and Accountability, a careful review of the sub-category of Organizational Climate and Culture provided an additional snapshot of the differences between schools that met the AYP targets in mathematics and reading for students with disabilities and the schools that did not. In this area, schools that met the targets earned a mean score of 51.83 whereas schools that did not meet the targets earned a mean score of 47.03. Although, t-test results did not indicate a s significant difference in these mean scores, it is noted that each of the six items in which statistical difference was found

occurred in the sub-category of Organizational Climate and Culture. This suggests that there are clear distinctions between schools that met the targets and schools that did not meet the targets in key areas that impact the day-to-day functioning of a school and its faculty and staff. Research conducted with elementary schools in Kansas (Mitef, 2003) found a positive correlation between organizational climate and a more favorable attitude towards inclusion. Additionally, Giddeon (2001), in a survey of over 800 elementary teachers, found that teachers are more likely to engage in effective practices if they believe their school is supportive and that they have the skills to adapt instruction and be effective with their students. Thus the overall climate may create an environment that promotes positive teacher and administrative attitudes towards students with disabilities and inclusive practices.

Relationship of Inclusion to Mathematics and Reading Achievement. Schools that met AYP targets achieved a mean pass rate of 81% in mathematics and 83% in reading for students with disabilities, while schools that failed to meet the targets earned pass rates in mathematics and reading of 49% and 56% respectively. Results of the Marsh Inclusion Scale indicated a mean score of 91.57 for schools that met the AYP pass rates compared to a mean score of 84.18 for schools that did not meet the pass rates.

A significant correlation between mathematics and reading achievement and inclusive practice in elementary schools was not evident in the results for schools that met the benchmarks in mathematics ($r = -.264$) and reading ($r = -.313$) nor in results for schools that did not meet the targets in mathematics ($r =. 207$) and in reading ($r =. 148$).

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Correlation results for schools that met the targets fell in the negative range for mathematics and reading.

As previously noted the correlation results must be interpreted with caution. According to Kiess (2002), correlation values are particularly sensitive to the ranges of values in either variable, and as the ranges become smaller for one or more variables, so does the value of r. Restricted ranges were factors in both the variable related to inclusive practices and the pass rate variables used in this study. In the case of schools that met the targets, the range of values for inclusive practice (47 – 116) was smaller or more restricted than the range for schools that did not meet the target. Schools that did not meet the AYP targets had a range on the Marsh Scale from 0 – 112. The same issue of restricted range is also true with regard to the pass rates. Schools that met the targets had achievement pass rates between 67% and 100% for mathematics and between 69% and 100% for reading which are smaller ranges of scores than the score ranges for schools that did not meet the targets.

Although many scholars (Rea, McLaughlin, & Walther-Thomas, 2002; Strieker & Logan, 2001) found academic gains associated with inclusive practices, this study did not. The findings of this study are consistent however, with a similar study of mathematics and reading achievement conducted by Redmon (2007) in which she examined whether or not the inclusive classroom improved the achievement scores of elementary students with disabilities on state assessment of mathematics and reading across a three-year period. Redmon did not find a statistically significant difference between students educated in inclusive settings and students educated in pullout

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classrooms. The findings of this study are also consistent with an inclusion study (Beam, 2005) which examined the relationship between inclusion and pullout special education programs for elementary students with learning disabilities and SOL mathematics and reading scores achievement. Like the Redmon study, differences were not evident between the two service delivery models.

Mixed findings across the research base suggest that further study is needed before clear conclusions can be drawn about the relationship between inclusion and achievement. Such findings paired with a topic such as inclusion which is riddled with complexities suggest that answers will not come easily. The lack of overall significant differences between schools that met the targets and schools that did not may be due to a number of factors including data collection through the self-report of building principals. Given their leadership roles and responsibilities, principals may present a favorably skewed and somewhat narrow view of their own schools. A number of other factors may have also accounted for the lack of significant difference including the number of years that inclusion had been implemented in the schools, the rate of staff turn-over, and the amount and quality of professional development provided to staff.

Although a relationship could not be determined between inclusive practices in elementary schools and the achievement of AYP targets in mathematics and reading for students with disabilities, clear distinctions remain between schools that met the targets and schools that did not. In addition to the fact that schools that achieved the benchmarks simply served more students with disabilities in inclusive mathematics and reading classes, as a group, they evidenced a greater number of inclusive features than their

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counterparts. In successful schools, teachers and administrators were more positive, parents participated in the process to a greater degree, students with disabilities were expected to participate in their inclusive classes, inclusion teachers were provided with planning time and inclusion was available across grade levels. Furthermore, schools that met the targets achieved higher scores across the dimensions of organizational climate and culture, professional practice, and accountability. These differences should not be overlooked as they may be glimpses of what it will ultimately take for all Virginia schools to meet the AYP achievement benchmarks for students with disabilities.

Implications for Practice

This study supports the existence of practical differences in the delivery of educational programs to students with disabilities in schools that met the NCLB performance benchmarks and schools that failed to meet the targets. Findings indicated that less than half of Virginia's schools serving grades K-5 attained the AYP target of 67% pass rate for mathematics and 69% pass rate for reading. In 2006-2007, the NCLB target moved to 71% in mathematics and 73% in reading. This school year (2007-2008) the pass rates will increase to 75% in mathematics and 77% in reading and by the end of this decade (2009 -2010), the required pass rate for all students, including students with disabilities will be 83% in mathematics and 85% in reading. The challenge to improve the performance of students with disabilities will only grow more urgent as time passes for all schools. Schools that have meet the AYP targets in 2005-2006 may struggle to maintain high performance, while schools that did not meet the targets will face ever

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widening gap between student performance and achievement targets that extend further and further out of reach.

To add to the dilemma, data from the Virginia Department of Education reported that students with disabilities represent approximately 14% of the total student population. The number of students with disabilities in Virginia, coupled with the increasing pass rates imposed by NCLB, can only mean that the research agenda in the state must become more aggressive in order to find effective strategies to increase mathematics and reading performance of students with disabilities.

Although inclusion may not be the remedy or "magic bullet" to address the student achievement problem, only continued research will determine if it is a piece of a very complex puzzle. Schools that did not reach the 2005-2006 AYP performance targets cannot afford to eliminate any factor that may contribute to putting them on a track for increased student performance. Although a significant correlation could not be established between inclusive practices and mathematics and reading achievement, the comments of some school leaders in this study indicate strong beliefs otherwise. Principals from schools that did met AYP targets attribute their success to inclusive practices. One principal commented, "Inclusion is working at our school. Staff development has been a critical aspect and administrative support paramount. Our students are achieving. We made AYP because we changed from self-contained to inclusive practices". Another principal said:

> We do not have any students who are self-contained all day at this time. Students
> do not and will not live in a self-contained world. Access to the curriculum is half

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the battle of students being successful. It has taken us a couple of years for this mental mind shift, but our staff works together every week under a PLC model when school-based intervention teams and planning are an expected part of the work. Our SOL data is showing this model is working for most of our students. Seventy-five percent or more of our Special Education students are meeting school mid-year benchmarks this year.

Recommendations for Future Research

Research evidence supports the need for the continued examination of strategies for improving the academic performance of students with disabilities. This study provided a snapshot of the current performance of elementary schools in the areas of mathematics and reading for students with disabilities, the inclusive practices implemented in these schools, and the relationship between inclusion and achievement.

Inconsistent and mixed findings across the growing literature base suggest that inclusion will continue to be an area of focus in educational research. With this in mind, it may be helpful to develop a scoring system for the Marsh Inclusion Scale that applies appropriate weighs to the items. Currently the scale has a simplistic scoring system in which the higher the score the more reflective the program is of the ideal inclusion program. A research effort to further develop the scoring system would provide an important tool in the investigation of inclusive practice. Additionally, uses of the Principle Components Analysis may also constitute a worthwhile tool in further refining the scale by clustering items into discrete categories.

The correlational results in this study need to be interpreted with caution. It is highly recommended that the study be replicated using a larger sample and using variables with larger ranges such as student scale scores on the SOL assessments to show achievement and inclusive practices.

The reality of accountability makes it clear that the AYP pass rates for mathematics and reading will continue to increase over the next several years. To gain additional information about schools that met the targets and schools that fail to do so, it is suggested that this study be replicated using a qualitative research design. A qualitative approach may allow for a more in-depth examination of the inclusive practices that cannot be obtained using a quantitative design.

This study used elementary principals as the primary respondents; another method of gaining more information on the evidence of inclusive features is to solicit responses from teams at the schools composed of general education and special education teachers and administrative personnel rather than a single respondent or to use observers external to school buildings. A team approach may provide a more comprehensive view of a school's practices. Another avenue for future research would be to expand to the middle or high school levels. Like elementary schools, these schools are also required to reach AYP mathematics and reading targets for students with disabilities.

Further studies are also recommended across levels in the content area of science. Although NCLB currently focuses on mathematics and reading achievement, recent regulations require that all states assess students in science one time in elementary school, one time in middle school and one time in high school. At this point, these scores are not

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calculated into AYP requirements; however mandated assessments may imply that science will be the next content area included in AYP calculations. If this is the case, it may be helpful to school division to replicate this study using science pass rates.

Conclusion

There are no clear remedies or simple recipes for increasing the achievement of students with disabilities in mathematics and reading to address the challenges set forth by No Child Left Behind. Some Virginia elementary schools met this challenge successfully, while many others continue to struggle to achieve AYP targets in mathematics and reading. This study examined the relationship between inclusion and this important issue of achievement. Although a significant correlation could not be found between the two, there are clear suggestions that differences exist between schools that met the AYP targets in mathematics and reading for students with disabilities and schools that did not. Further investigations into the practices of successful schools are needed if educators are to obtain clear models to employ to ensure that all students, including students with disabilities, have similar achievement.

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Appendix A

Cover Letter and Informed Consent Documents

Dear_____:

I am writing to request your participation in a dissertation study that I am conducting entitled: "The A Study of the Relationship between the Mathematics and Reading Achievement of Students with Disabilities and Inclusive Practice in Elementary Schools". The purpose of this study is to examine the relationship between inclusive practice in Virginia elementary schools and the attainment of AYP performance targets for students with disabilities in mathematics and reading. I believe that a study of this topic is needed to describe the present state of inclusion in our elementary schools and its relationship to the demands of accountability. The results will be extremely useful to school leaders who are committed to including students with disabilities and providing quality educational programs for all learners.

You were randomly selected for participation based on the AYP status of your school for the 2005-2006 school year. In order to provide the information needed you will need to be knowledgeable regarding the delivery of educational services to students with disabilities in your school in 2005-2006. If you do not have this knowledge, please pass this packet on to a more suitable staff member in your school. Although there are no potential risks associated with this study, your name, the name of your school, and the name of your school division will remain confidential and will not be revealed at any time. An informed consent form is enclosed which describes all of the ethical standards and protections afford you as a study participant. A signed copy must be returned with the study.

As a study participant you will be asked to complete the Marsh Inclusion Scale-Revised (Abbreviated Version). This scale was designed to measure the degree to which a school adheres to the best practices of inclusion found in the literature. The Marsh Scale is based on an "ideal" inclusive program; therefore the scale allows a school to be evaluated against an ideal criterion. The scale consist of 58 items and uses a 3-point likert scale (0 = not present in the school; 1= somewhat present in the school; 2 = clearly present in the school). Space is also provided for you to provide any additional information about your school's inclusive practice that you feel would be helpful. The scale will take approximately 30 minutes to complete.

I have enclosed a $2.00 bill as a token of my appreciation for your help and support. Please return your signed informed consent and completed scale to me in the stamped self-addressed envelope provided by
_____. At the conclusion of the study you will be sent a copy of the findings. If you have questions, please feel free to contact me at (804) 357-0712 or sasile@wm.edu.

Thank you again for your help and support of this exciting research endeavor.

Sincerely,

Sharon E. Siler

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Participant Informed Consent
College of William and Mary
Williamsburg, Virginia

The general nature of this study entitled: "A Study of the Relationship between the Mathematics and Reading Achievement of Students with Disabilities and Inclusive Practice in Elementary Schools" conducted by Sharon E. Siler has been explained to me. I understand that I will be asked to complete a survey regarding the essential features of inclusive practices in my school. My participation in this study should take about 30 minutes. I understand that my responses will be confidential and that my name will not be associated with any results of this study. I know that I may refuse to answer any question asked and that I may discontinue participation at any time. Potential risks resulting from my participation in this project have been described to me I understand that if I am injured in the performance of this research, the College will not provide voluntary compensation or treatment. I am aware that I may report dissatisfactions with any aspect of this experiment to the Chair of the Protections of Human Subjects Committee, Dr. Michael Deschenes, (757)221-2778 or mrdesc@wm.edu. I am aware that I must be at least 18 years of age to participate. My signature below signifies my voluntary participation in this project, and that I have received a copy of this consent form.

_____
Date

_____
Signature

_____
Print Name

THIS PROJECT WAS FOUND TO COMPLY WITH THE APPROPRIATE ETHICAL STANDARDS AND WAS EXEMPTED FROM THE NEED FOR FORMAL REVIEW BY THE COLLEGE OF WILLIAM AND MARY PROTECTION OF HUMAN SUBJECTS COMMITTEE (Phone (757) 221-3966 on _____.

Appendix B

Permission to Use the Marsh Inclusion Scale-Revised (Abbreviated Version)
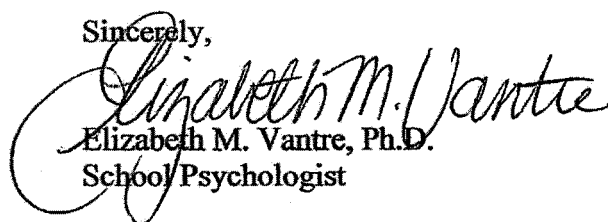
August 20, 2006

Dear Dissertation Committee,

I give my permission for Sharon E. Siler to use the Marsh Inclusion Scale in her doctoral study entitled: "Addressing Accountability for Students with Disabilities through Inclusive Systems." I understand the scale will be adapted in the following two ways: 1) The Marsh Inclusion Scale will be shortened to 58 items (from the original 92 items). The scale will be shortened by including only those items that received mean ratings of 3.5 or higher by the original Delphi panel, thus reflecting best practices that are most essential for successful inclusion programs. Shortening the scale in this way will maintain its construct validity. 2) The five original subheadings on the Marsh Inclusion Scale (policy, Stakeholder, Leadership, Support and Involvement, Resources and Supports, Professional Practices, and Curriculum and the Classroom) will be eliminated in order to prevent confusion for Ms. Siler's use of the scale with building level administrators. No new subheadings will be added. In order to reflect the aforementioned revisions of the Marsh Inclusion Scale. The scale will be renamed as the Marsh Inclusion Scale-Revised (abbreviated version).

I give my permission for MS. Siler to use the scale in pilot studies conducted in preparation for, and/or as part of her doctoral research. Any feedback on the Marsh Inclusion Scale from the school leaders and building administrators is most appreciated. This feedback will assist Mrs. Valerie Mitchell Piskorski, a graduate student at Temple University, who is currently validating the Marsh Inclusion Scale in order to develop scoring norms as part of her doctoral dissertation.

Sincerely,

Elizabeth M. Vantre, Ph.D.
School Psychologist

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Appendix C

Marsh Inclusion Scale-Revised (Abbreviated Version)

Marsh Inclusion Scale-Revised (Abbreviated Version)
The Marsh Inclusion Scale evaluates the success of inclusive education programs based on best practices cited in the inclusion research.

Section I: General Information and School Demographics:
Please answer the questions below to provide information on you and your school during the 2005-2006 school year. For the purpose of this scale, an *inclusive classroom* is defined as a general education classroom where students with disabilities are assigned with age-appropriate peers and are provided with instructional supports to access the curriculum of the classroom.

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1. What is your current role at the school?
   _____ Principal _____ Assistant Principal _____ Other: _____

2. What was your role at the school during the 2005-2006 school years?
   _____ Principal _____ Assistant Principal _____ Other:_____

3. Estimate of the total number of students with disabilities in the school during the 2005-2006 school year. _____

4. Estimate of the number of students with disabilities in the school during the 2005-2006 school year according to their disability categories:

Disability	AU	DD	DB	ED	HI	LD	MR	MD	OI	OHI	SD	SLI	TBI	VI
Number														
Number assigned to Inclusive Classes														

5. Estimate of the total number of students with disabilities served in inclusive classrooms for **English/Reading** for the 2005-2006 school year. _____

6. Estimate of the total number of students with disabilities served in inclusive classrooms for **Math** for the 2005-2006 school year. _____

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		Not Present	Somewhat Present	Clearly Present

Section II: Inclusive Practices
Please read each item/best practice to determine the degree of its presence in your school. Rate each item on a 3-point likert scale 0 = Not Present; 1 = somewhat present in the school; 2= clearly present in the school.

		Not Present	Somewhat Present	Clearly Present
1.	Teachers have positive attitudes towards inclusion (i.e. feel general education classrooms are appropriate for meeting the needs of students with disabilities).			
2.	Prior to teaching together, co-teachers take time to get acquainted, plan, establish agreement on issues such as curriculum, instructional strengths and weaknesses,, classroom rules and routines, classroom management and progress monitoring.			
3.	Collaborative relationships (relationships based on equal partnership established to unite individual strengths and weaknesses in planning, making decisions, and problem solving) exist among all personnel involved in the inclusion program.			
4.	General and special educators collaborate on issues such as IEP planning, intervention development curriculum modifications, and cooperative teaching.			
5.	Inclusive education receives administrative support.			
6.	The principal is involved and supportive of inclusive education.			
7.	The principal provides opportunities for teaming of general and special education staff by scheduling regular meeting times or granting release time.			
8.	Administrators (Board of Education, superintendent, etc.) have positive attitudes towards inclusive education			
9.	Effective communication exists among inclusive personnel and school wide faculty and staff			
10.	Administrators have positive attitudes towards students with disabilities			

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		Not Present	Somewhat Present	Clearly Present
11.	A "school reform movement" exists within the school whereas the entire school is aware of and involved in supporting the inclusion effort.			
12.	Collaborative teams (consisting of a variety of professionals, parents, peers, and the student in addition to special and general education teachers), exist and meet regularly.			
13.	Included students with disabilities are expected to participate in class, as are their general education classmates (according to their IEPs and with adaptations).			
14.	Included students with disabilities are held accountable for their behavior as are their general education classmates (according to their IEPs and with adaptations) and positive behavioral support strategies are utilized to ensure the successful inclusion of students with behavioral challenges.			
15.	Inclusive educators have high expectations for all students			
16.	Students with disabilities are included in their IEP process whenever appropriate.			
17.	Parents of students with disabilities participate in their child's IEP process.			
18.	There is regular communication (verbal and written) between parents and inclusive staff in the school.			
19.	Teachers have positive attitudes towards students with disabilities and are willing to accommodate these students in general education classes.			
20.	The school division delegates funding that is appropriate to meet the school's various needs (i.e. covers supports such as professional development, personnel, and instructional materials).			
21.	Inclusive classrooms receive appropriate resources and supports.			
22.	When teachers and staff communicate about a student with a disability, he or she mostly referred to by name (people first language) rather than by disability.			
23.	The curriculum includes standards related to social competence and lifelong learning strategies			

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		Not Present	Somewhat Present	Clearly Present
24.	Fostering of social interaction among students with disabilities and students without disabilities is an inclusion goal reflected in the curriculum.			
25.	Activities that promote social interaction between students with disabilities and their peers without disabilities are utilized (i.e. cooperative learning and peer networks).			
26.	Classroom climate is positive and accepting of individual differences.			
27.	Inclusion is provided across all grade levels (i. e. students with disabilities will move to the next grade level with their classmates).			
28.	Included students with disabilities are in general education classes that are chronologically age and grade appropriate.			
29.	Individual Education Plans (IEPs) for included students are written specifically for implementation in general education.			
30.	Included students with disabilities share the same schedule, activities, and electives as general education students (i. e. share the same school jobs and responsibilities, share the same tables in the cafeteria, share homeroom membership and duties, participate in the same special events such as field trips, have artwork and other accomplishments displayed in the same manner, and have access to similar school supplies.			
31.	Included students with disabilities (secondary students) participate in electives with general education classmates.			
32.	Included students with disabilities arrive and leave school the same time as their general education classmates (as much as possible).			
33.	Necessary physical adaptations for students are made prior to their placement.			
34.	The school building is physically accessible to all students.			
35.	IEPs for included students include modifications and supports necessary for success in general education classrooms.			

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		Not Present	Somewhat Present	Clearly Present
36.	Prior to inclusion, administrators and teachers familiarize themselves with the characteristics and individual needs of students with disabilities.			
37.	Technology and classroom modifications are available and utilized as appropriate to students' needs in their IEPs (i. e. augmented communication devices, specialized furniture, adapted computer equipment, Braille materials, etc.).			
38.	Classroom modifications are available and utilized in inclusive classrooms.			
39.	Inclusive classrooms have access to and receive regular support from specialists (i.e. special education teachers, reading specialists, counselors, physical and speech therapists, school psychologists, etc.).			
40.	Specialists' services are fully utilized (i. e. they provide instruction, assessments, and interventions rather than simply observe.).			
41.	Inclusion staff thoroughly read and understands students' IEPs.			
42.	Teachers have appropriate support and professional development to teach diverse classes of students.			
43.	Inclusion staff receives training in skills needed to include students before the inception of the program.			
44.	Inclusion staff receives ongoing training in curriculum modifications and instruction.			
45.	Inclusion teachers (general and special education teachers) possess knowledge of legal mandates, characteristics of students with disabilities, procedures for integrating students with disabilities into general education classrooms, and ways to effectively work with a variety of specialists.			
46.	Positive behavioral support strategies are utilized in inclusive classrooms.			
47.	Co-teachers schedule regular weekly planning times to plan, communicate, problem solve and monitor progress.			
48.	General and special education teachers are allotted for blocks of time (weekly) to collaborate and plan for inclusive education.			

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		Not Present	Somewhat Present	Clearly Present
49.	Collaboration among professionals occurs frequently and during planned meeting times, not only when problems arise.			
50.	The curriculum is adapted as needed to accommodate the special and individual needs of all students.			
51.	Alternative instruction methods are utilized to adapt curriculum to accommodate needs of all students.			
52.	Inclusion teachers have high efficacy.			
53.	Inclusion staff has a clear understanding of their "new" and altered roles and responsibilities that come along with implementing inclusion.			
54.	General education teachers work as team members with instructional aides, the principal, special education teachers, parents and needed specialists.			
55.	Students' academic and social gains are continuously monitored.			
56.	Teachers continually monitor their teaching methods to ensure they are meeting instructional objectives and to set goals for inclusive education.			
57.	Inclusion staff receives ongoing training in skills needed to implement inclusion (i.e. in-service training, opportunities to attend conferences, observations of other teachers, etc.)			
58.	Authentic assessments and evaluations are utilized in inclusive classrooms as needed (i.e. curriculum-based assessment, performance-based assessment, and anecdotal notes).			

Comments
Please use this section to provide any additional information regarding the inclusive practices in your school.

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Human Subjects Committee Approval

This is to notify you on behalf of the Education Internal Review Committee (EDIRC) that protocol EDIRC-2006-11-10-4485-sasile titled A Study of the Relationship between the Mathematics and Reading Achievement has been exempted from formal review because it falls under the following category(ies) defined by DHHS Federal Regulations: .

Work on this protocol may begin on 2006-11-22 and must be discontinued on 2007-11-22. Should there be any changes to this protocol, please submit these changes to the committee for determination of continuing exemption using the Protocol and Compliance Management channel on the Self Service tab within myWM (http://my.wm.edu/).

Please add the following statement to the footer of all consent forms, cover letters, etc.:

THIS PROJECT WAS FOUND TO COMPLY WITH APPROPRIATE ETHICAL STANDARDS AND WAS EXEMPTED FROM THE NEED FOR FORMAL REVIEW BY THE COLLEGE OF WILLIAM AND MARY PROTECTION OF HUMAN SUBJECTS COMMITTEE (Phone 757-2213966) ON 2006-11-22 AND EXPIRES ON 2007-11-22.

You are required to notify Dr. Ward, chair of the EDIRC, at 757-221-2358 (EDIRC-L@wm.edu) and Dr. Deschenes, chair of the PHSC at 757-221-2778 (PHSC-L@wm.edu) if any issues arise during this study.

Good luck with your study.

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